

**ALL TROUBLE SHOOTING OF A HYDROSTATIC WATER JACKET TEST SYSTEM SHOULD BE CONDUCTED WITH THE CALIBRATED CYLINDER AS THE TEST CYLINDER**

	<b>PROBLEM</b>	<b>CAUSE(S)</b>	<b>SOLUTION</b>
<b>1</b>	<b>Open console water valve to jacket or to pump and no water flows.</b>	Water not turned on	Turn water supply on
		Water not connect to console	Connect water supply to water inlet at back of test console
<b>2</b>	<b>Open console air valve to pump and pump piston does not move or "stalls" randomly.</b>	Insufficient air supply	Check air regulator. Inlet air to pump must be @ 100 psi
		Detent(s) / spring(s) in air operator section of pump are worn	Replace detent / springs or return pump to factory for overhaul.
<b>3</b>	<b>Oil accumulates below muffler on pump.</b>	Pump is over lubricated	Adjust oil control valve on top of lubricator at inlet of pump. Proper adjustment is 1 drop of oil thru sight gage for every 20 strokes of pump piston.
<b>4</b>	<b>Water in EID rises above zero without introducing any pressure to cylinder.</b>	Leaking water valve from console to water jacket	With console water valve in closed position, un hook copper tubing. If water is dripping from valve, valve needs to be cleaned or replaced
		Deviation between water and ambient air temperatures	As water warms up, expansion will occur, as heat causes expansion.  Air temperature must be kept stable, which in turn will keep water in water jacket stable.  In many cases air conditioning or heating the hydro area is necessary. Whatever can be done to keep air temperature stable will greatly assist in keeping water temperatures stable.  In some instances a hot / cold water mixing valve is required to regulate water temperature to ambient air temperature.
		Leakage on burette manifold valves.	Open all burette valves and bring water level to 0 on each. Close all burette valves except one that you are using. Observe to see if water level is stable on all burettes. Replace valve that is losing water.
		Lid closure clamps adjusted improperly	Re adjust clamp(s) to manufacturers specifications.
		Water jacket o-ring has become too soft and is compressing.	Replace o-ring

PROBLEM		CAUSES	SOLUTION
5	<b>Water level in EID drops when you first zero out EID</b>	Physical leak from EID to and including water jacket.	Check and replace these items as necessary; 1) Bleed valve on jacket lid 2) O-ring on lid seal 3) Rupture port disc 4) Inlet / outlet water connections on jacket 5) Burette manifold valves 6) Burette bleed valve 7) Rubber tubing on burette valves 8) Connection between EID and jacket
		Water Jacket not level	Put level across jacket lid and shim jacket base until level
		Restriction at copper tubing between EID and jacket	Check copper tubing and rubber hose to EID for any kinks or restrictions. Rubber hose should not have any loops and not be stretched if using moveable burette bank.
		Water in jacket is cooling down	Maintain consistent and stable air and water temperature. (see 4)
6	<b>Water level on EID rises and the gage pressure drops</b>	Leak inside water jacket	Check and repair or replace these items as necessary; 1) Test adapter o-ring 2) Test adapter/cylinder threads 3) Quick coupler 4) Quick coupler nipple 5) Pin hole in cylinder
7	<b>Water level on EID drops and gage pressure drops</b>	Leak between and including pump and cylinder under pressure.	Check and repair or replace these items as necessary; 1) Outlet check valve on pump 2) High pressure bleed valve 3) All connections from pump to manifold 4) Connections/fittings on manifold 5) High pressure hose assy 6) Quick coupler on end of hose
8	<b>When pump is activated, the pressure gauge does not register pressure smoothly and is "jumping" with the pulsation of the pump.</b>	Pressure snubber is clogged or faulty	Replace pressure snubber. Most all pressure snubbers are located in line with gauges stainless steel tubing and are screwed into the manifold on back of test console.
9	<b>In daily verification procedure with calibrated cylinder, you do not get the required 1% correlation.</b>	Pressure gauge is faulty	Verify true zero point of pressure gauge is correct. (see current calibration sheet). If not, readjust per manufacturers instructions.
		Pressure gauge is out of calibration	Have gauge re calibrated
		Calibrated cylinder is faulty	If cylinder is returning back to zero expansion at end of verification run than cylinder may require re calibration.  If cylinder does not return to zero at end of verification run consult trouble shooting items numbers 4-7