



## Procedure for Back Pressure Test

The purpose of the procedure is to determine the degree of scale buildup inside the heating coil of a steam or hot water pressure washer.

1. Scale on the inside of the heating coils is caused primarily by the use of hard water (greater than 5 grains per gallon) and the use of improper chemicals.
2. The Back Pressure (B/P) Test involves the use of a pressure gauge located on the coil inlet line to indicate the amount of water pressure required to force the total pump volume through the coil to an open outlet immediately beyond the coil.
3. There are conditions that may indicate scale in the coil other than B/P:
  - a. **Temperature creep.** Temperature creep is a condition that occurs on a lever controlled cleaning machine when, during normal operations, the operator closes the gun valve thereby turning off the burner and flow for a period of 20 to 30 seconds. When the operator restarts the flow, he finds that the temperature of the water in the coil has actually increased by 10 to 30 degrees during the lockup. This lag in the transfer of heat into the water is caused by a slow exchange of heat in the coil through a layer of insulator scale between the steel coil and the water.
  - b. **Nozzle plugging.** Frequent nozzle plugging due to scale particles breaking loose and lodging in the nozzle orifice.

### Walters Proper Backpressure chart

Machine Model Series	Pump Volume GPM	PSI Backpressure Clean coil	PSI Backpressure Early Warning	PSI Backpressure Time to De-scale
<b>80</b>	3 GPM	7	30	75
	4 GPM	10	40	100
<b>100</b>	4 GPM	15	60	150
	5 GPM	40	120	300
<b>150</b>	2.5 GPM	5	25	60
<b>160</b>	5 GPM	12	100	200
	8 GPM	25	125	250
<b>200</b>	3 GPM	5	25	60
	7 GPM	20	120	200