

# CONVERSION CHARTS • TESTING METHODS

## Water Test:

The DWV plumbing system is plugged leaving the top vent open. Water is then introduced to the system, purging any trapped air that may occur. The test passes if no water column is lost or no pressure drop is noted on a gauge.

## Air Test:

The DWV plumbing system is plugged at all openings including traps and vents, leaving one opening as a point to both introduce and monitor the test pressure. Air is introduced, pressurizing the system (normally 5 PSI or less), making sure all are outside the danger zone. (See safety and usage instructions.) The test passes if the measurable loss of pressure is within the time and pressure allowances of the test specifications.

## Manometer (or U-Tube):

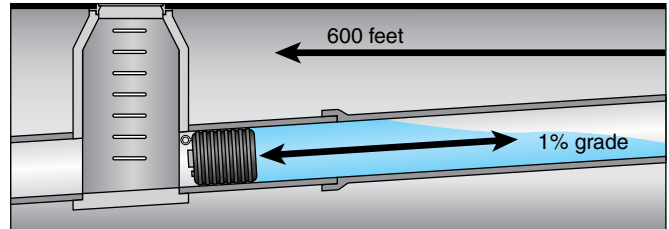
Also known as a final test, the manometer test verifies trap tightness in a new plumbing system. All traps are filled with water and all vents are then plugged. The manometer tube is first filled with water so that it “zeroes” out. Then the lower tube of the manometer is placed through a trap. A second hose is then put through the same trap and a small amount of pressure is applied. A decrease in water column measured on the manometer scale indicates that there is a leak in the system.

## Scent Test:

The DWV system is plugged at all openings except one. Liquid scent is applied in that opening, which is then plugged. Leaks are detected via smell.

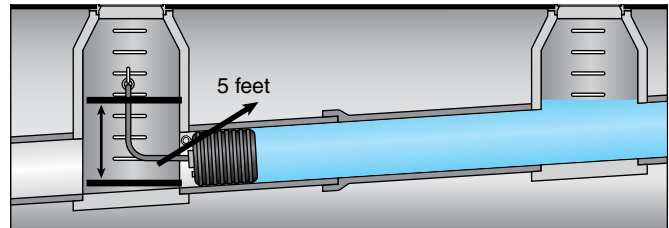
## Calculating Head Pressure/Feet of Head

- 1) Measure the distance of the pipe and multiply it by the slope of the grade.
- 2) Measure the distance of the pipe above the plug. (Used when pipe is vertical)



In the example above, the answer is  $600 \times .01 = 6$  feet of head.

- 3) Attach a hose to a Muni-Ball® bypass. Raise the hose until the flow stops. Measure the height of the water in the hose.



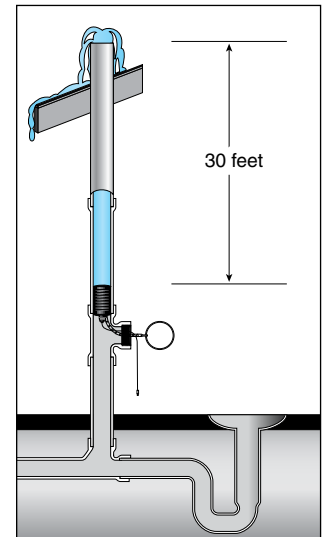
In the example above, the answer is 5 feet of head

## MEASURES CONVERSION CHART

UNIT	=	CONVERSION FACTOR	x	UNIT
Pounds per square inch	=	14.5	x	Bars
Gallons	=	7.48052	x	Cubic feet
Meters	=	.3048	x	Feet
Inches of mercury	=	.8825	x	Feet of water
Pounds per square inch	=	.4335	x	Feet of water
Millimeters	=	25.4	x	Inches
Feet of water	=	1.133	x	Inches of mercury
Pounds per square inch	=	.4912	x	Inches of mercury
Pounds	=	2.2046	x	Kilograms
Feet	=	3.281	x	Meters
Inches	=	.03937	x	Millimeters
Feet of water	=	2.307	x	Pounds per square inch (PSI)
Inches of mercury	=	2.036	x	Pounds per square inch (PSI)

## PRESSURE CONVERSION CHART

PSI	FEET OF HEAD	PSI	FEET OF HEAD
1	2.31	14	32.33
2	4.62	15	34.64
3	6.93	16	36.94
4	9.24	17	39.25
5	11.55	18	41.56
6	13.85	19	43.87
7	16.16	20	46.18
8	18.47	25	57.73
9	20.78	30	69.27
10	23.09	35	80.82
11	25.40	40	92.36
12	27.71	45	103.91
13	30.02	50	115.45



In the example above, the answer is: 30 feet of pipe above the plug = 30 feet of head

**ALWAYS BLOCK PLUGS WHEN CONDUCTING AIR TESTS.**