

FULLERFORM



PORTABLE WEIR



The Portable Weir is a precision water measuring device for all standard concrete ditches. This Weir is patterned after an old proven system used by the Salt River Project and the Roosevelt Water Conservation District of Arizona for over 50 years.

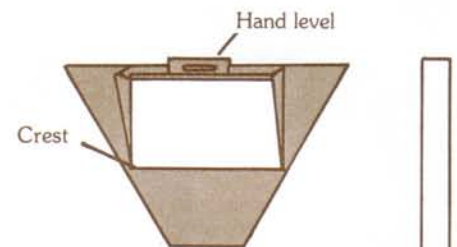
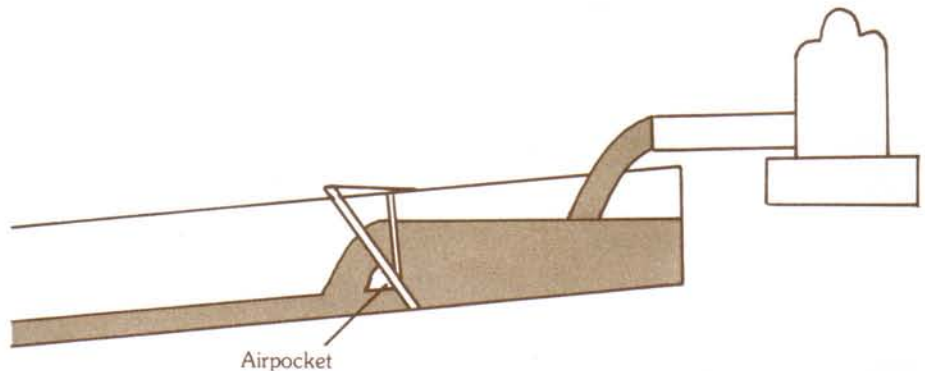
It will match the accuracy of most open ditch devices on the market today. Under normal conditions and use it will give years of satisfactory service.

With today's high cost of irrigation, a grower needs to know exactly where every gallon of water goes. The Portable Weir will help in figuring pump efficiency, crop usage, and percent of efficiency of water in leveling.



INSTRUCTIONS

1. Select a section in the concrete ditch with enough fall that will allow for an air pocket at the crest of the Weir.



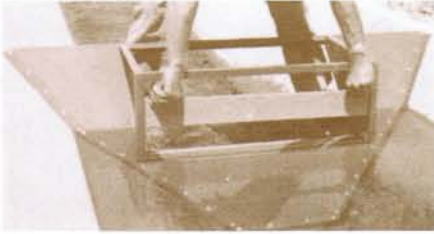
2. Install the Weir in the concrete ditch. Use a small hand level to make sure the crest of the Weir is level.

3. Wait 15-30 minutes to let the water stabilize before taking the measurement.
4. To take the measurement, wet the stick, then dust with fine dirt. Insert the stick in the middle of the Weir opening. With the lower end of the notched stick resting on the crest of the Weir, allow 5-10 seconds before taking the reading at highest wash off of the dirt on the stick. Each mark across the stick = 1. The partial marks = .5 or $\frac{1}{2}$. Try to divide each cross mark into 10ths. Example: Stick shows wash off of approximately 4.8, the Weir measures 30" across where the water flows through. So $4.8 \times 30" = 144$ miners inches. To convert miners inches to gallons per minute: $144 \times 11.22 =$ approximately 1600 G.P.M. (matches 2 significant figures (4.8) input).
5. Stick measurement $\times 30" =$ miners inches. Miners inches $\times 11.22 =$ G.P.M.

4.8



6. When the Weir has an air pocket at the crest, it is called a Free-Falling Weir. There is a possibility you cannot find enough slope in the concrete ditch to get the air pocket at the crest. Boards can be inserted in the slots provided in the Weir to raise the crest to get the air pocket.

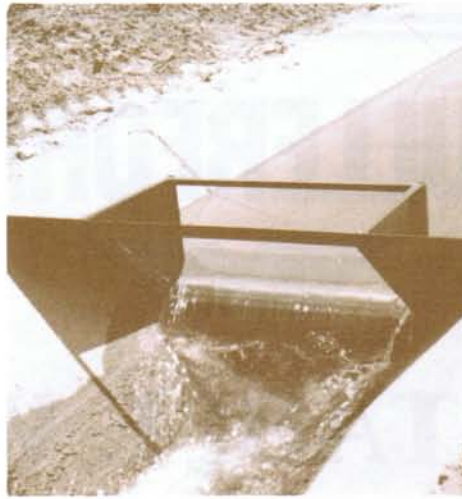


7. When the Weir has no air pocket at the crest, it is called a Submerged Weir. The measuring stick provided with the Weir can only be used with the free falling Weir. In an instance like this a measurement can be taken with the use of the Clausen water rule which has a piezometer tube that will measure the difference between the up-stream head and the down-stream head. In most all instances the measuring stick provided will be able to make measurements.

(Patent Pending)

Water Conversions

1 miners inch = 11.22 G.P.M.
 40 miners inches = 448.8 G.P.M.
 448.8 G.P.M. = 1 cubic ft. per. sec.
 1 cubic ft. per sec. = 1 acre inch per hour
 226 G.P.M. = 1 acre ft. in 24 hours



Approximate Flow in G.P.M.				
Pipe size	Drop			
	4"	6"	8"	10"
¾"	3.6	4.4	5.0	5.6
1"	6.4	7.9	9.0	10.0
1¼"	10.4	12.7	14.6	16.2
1½"	14.3	17.5	20.2	22.5
2"	25.6	31.8	35.9	40.0
3"	57.2	70.0	80.8	90.0



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