

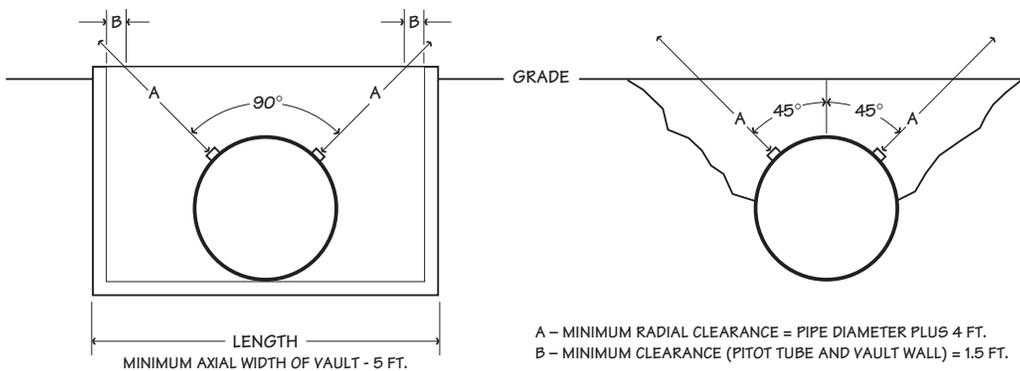
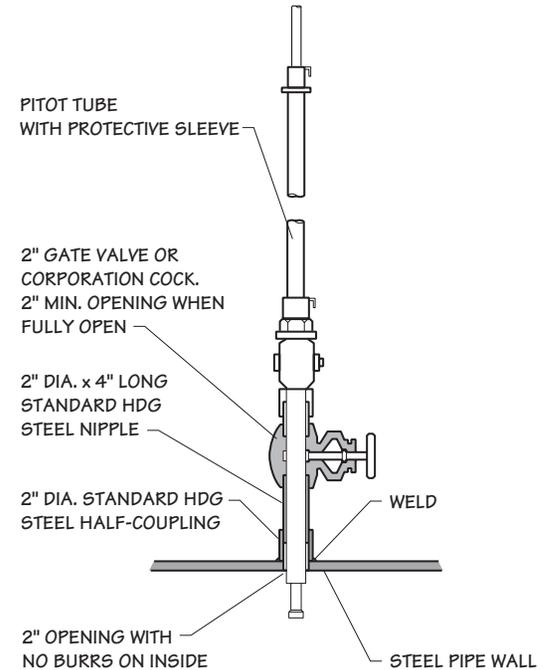
## Pipe Tap Requirements for Measurement of Water Quantity by Pitot Tube Traverse for Pipes 48" Diameter through 144" Diameter

Each connection or tap consists of a 2" minimum diameter pipe coupling, a 2" minimum diameter pipe nipple, and a 2" minimum diameter valve as shown on this sketch. This valve must be fully ported with a minimum opening of 2". These connections are to be installed on horizontal runs of pipe, and it is customary to install them on the return pipe to the cooling tower. In the case of steel pipe, the coupling is welded to the pipe. Special instructions are required when taps are to be installed on reinforced concrete or FRP pipe.

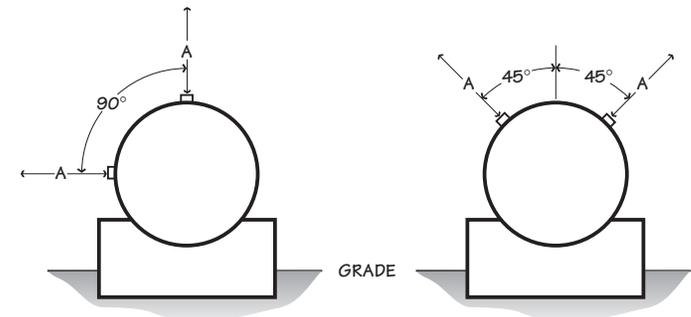
The taps should be located in the longest unobstructed section of straight pipe available and easily accessible, and at positions a minimum of 8-10 pipe diameters from any upstream interference and 4-5 pipe diameters from any downstream interference. Interference, in this context, refers to valves, elbows, tees, changes in area, etc. The longer the run of straight pipe, the more reliable the results, with the critical run of pipe being upstream of the connections.

Pipe sizes through 144" diameter can normally be traversed depending on the length of fittings external to the pipe—the length of external fittings should be minimized. Connections should be installed as depicted in one of the typical details shown hereon.

Large Pitot tubes are heavy and awkward requiring a man at each end to install and utilize. A large stable working platform such as scaffolding is therefore required at the Pitot tap (if elevated) and at the other end of the tube as it is installed. Ladders are not suitable for working with large tubes.



PIPE BELOW GRADE



PIPE ABOVE GRADE