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TRAPEZOIDAL FLUME GENERAL COMMENTS

The Trapezoidal Flume was originally designed for use in irrigation and other agricultural applications. It is still frequently installed in open channels. However, it is also extremely well suited for in-line applications when proper adapters or transition pieces are used. Most of the flumes use a simple power equation, and most of the instrument manufacturers are now familiar with these flumes.

ADVANTAGES

1. Trapezoidal flumes have a flat floor and relatively low sidewalls, and create less upstream head than most other flumes.
2. The floor and wall design accelerates flow as it passes through the flume making it "self-cleaning".
3. The flumes are capable of passing solids without clogging.
4. The 600 "V" shaped throat gives high performance at low flows, and is the best flume to measure flows from I - 10 GPM. The family of 60° V Trapezoidal flumes cover these flow ranges:

Small	1 to 35 GPM
Large	1 to 120 GPM
Extra Large	1 to 600 GPM
3.0'	2 to 6,200 GPM

5. The 60° V Trapezoidal flume can also be retrofit to manholes and can be easily installed in channels or piping systems.
6. It is an economical flume to buy and to install.

DISADVANTAGES

1. Trapezoidal flumes give good low flow resolution when compared to other types of flumes, but are somewhat limited in their total flow range capability.
2. Some people are still not familiar with this type of flume, and they don't realize it can be used with sewage, installed in manholes and piping systems.

APPLICATION NOTES: *Also see "General Flume Design Data"*

1. Each Trapezoidal flumes has two flow charts. One measures vertical head and the other one is sloped and corresponds to the gage running up the angled wall.
2. Because of the narrow floor, the 60° V Trapezoidal flumes normally work best in conjunction with bubbler or pressure type probes. Some ultrasonic units seem to work well also. Consult the instrument manufacturer for recommendations.
3. Any of the common instrument packages are compatible with the larger Trapezoidal flumes.
4. If at all possible do not design or install a new flume system with the anticipation of it operating in a submerged state. For Trapezoidal flumes, submergence occurs around 70 - 80%.

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