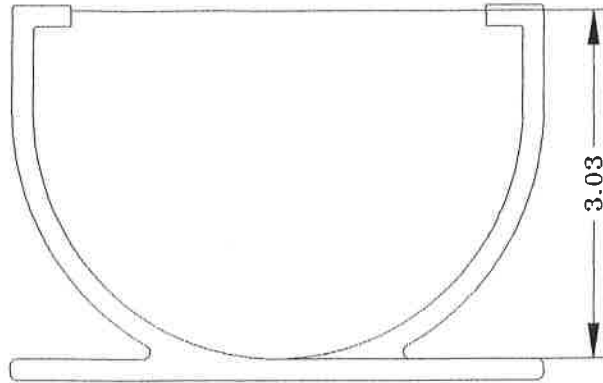


# 4-inch Water Hog

4" WATER HOG  
QP-6251



Maximum velocity when drain is full:  $V_{\max} = \sqrt{2gH}$  where H is the effective depth from bottom of grate to the bottom of the drain.

$$V_{\max} = \sqrt{2 \times 32.2 \times 3.03 / 12} = 4.03 \text{ ft/sec}$$

For: Orifice effect discharge coefficient = 0.63

Drain pipe length and bend coefficient = 0.8

Cross Sectional area for discharge  $A = \pi r^2 = 11.48 \text{ in}^2 = 0.0797 \text{ ft}^2$

Maximum Flow rate = Discharge Coefficient x A x  $V_{\max}$

$$= (0.63 \times 0.8) \times 0.0797 \text{ ft}^2 \times 4.03 \text{ ft/sec}$$

$$= 0.1619 \text{ ft}^3 / \text{sec}$$

$$= 0.1619 \text{ ft}^3 / \text{sec} \times 60 \text{ sec/min} \times 7.48 \text{ Gal/ft}^3$$

Maximum Flow rate = 72.7 Gallons/min

Note: As the depth of water decreases, the flow rate will decrease in proportion to the square root of depth.