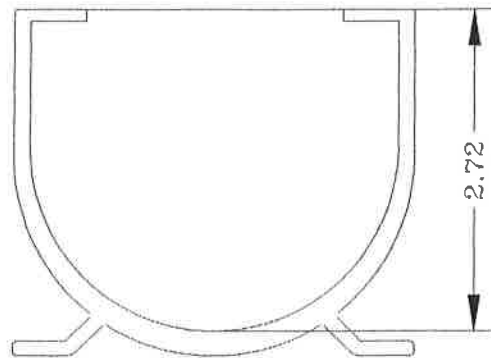


# 3-inch Water Hog

3" WATER HOG  
QP-6241



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.

$$V_{\max} = \sqrt{2 \times 32.2 \times 2.72 / 12} = 3.82 \text{ ft/sec}$$

For: Orifice effect discharge coefficient = 0.63

Drain pipe length and bend coefficient = 0.8

Cross Sectional area for discharge  $A = \pi r^2 = 7.300 \text{ in}^2 = 0.0507 \text{ ft}^2$

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

$$= (0.63 \times 0.8) \times 0.0507 \text{ ft}^2 \times 3.82 \text{ ft/sec}$$

$$= 0.0976 \text{ ft}^3/\text{sec}$$

$$= 0.0976 \text{ ft}^3/\text{sec} \times 60 \text{ sec/min} \times 7.48 \text{ Gal/ft}^3$$

Maximum Flow rate = 43.8 Gallons/min

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