



HIDE HDC26" DRAIN COVER FLOW RATE GUIDE:

= 141.1L/min
= 37.3 US gallons per minute (gpm)

TECHNICAL EXPLANATION:

The flow rate through a slot drain is influenced by the slot's cross-sectional area and the hydraulic conditions, including the slope and roughness of the channel. In this estimation, we utilized standard flow rates for a known slot width and adjusted proportionally based on the given slot dimensions. For precise flow rate determination, it's recommended to perform detailed hydraulic calculations considering site-specific parameters or consult with a drainage engineer.

HDC26" FLOW RATE:

Width of the slot (W) = 3/16 in / 0.197 in
Total slot length (L) = 103.3 in (4 x 25.83 in)
Slot area (A) = W x L



1. Cross-Sectional Area

The cross-sectional area of the slot can be calculated as: $A = W \times L$
 $A = 3/16 \text{ in} \times 103.3 \text{ in} = 20.34 \text{ in}^2$
 $A = 13,120 \text{ mm}^2 \times (1 \text{ m}^2 / 1,000,000 \text{ mm}^2) = 0.01312 \text{ m}^2 (0.1412 \text{ ft}^2)$

2. Flow Velocity Estimation:

Using the proportional flow rate calculation from the reference slot system:
We determined that the flow rate per meter of slot length for a **1/2 in wide slot is approximately 37.3 gpm per meter / 11.36 gpm per foot.**

The width of the HIDE Drain Cover Slot 0.197 in is **39.37%** of the reference width ($5 \div 12.7 \approx 0.3937$). Therefore, we adjust the flow rate proportionally:
Flow rate per meter = $136.6 \times 0.3937 \approx 14.21 \text{ gpm/m} / 4.33 \text{ gpm/ft}$

3: Total Flow Rate:

For a total slot length of 2,624 mm (or 2.624 m / 8.61 ft):

TOTAL FLOW RATE = 53.8L/min/m x 2.624m ≈ 37.3 US gallons per minute (gpm)

4: Convert to Cubic Meters per Second

To express the flow rate in m^3/s :

$141.1 \text{ L/min} = 141.1 \text{ m}^3/\text{min} = 4.98 \text{ ft}^3/\text{min}$
 $0.1411 \text{ m}^3/\text{min} \div 60 \text{ s/min} \approx 0.0831 \text{ ft}^3/\text{s}$

Guide Flow Rate:

For the 26" Square HIDE Drain Cover with a 3/16 in / 0.197 wide slot, the estimated flow rate is approximately 37.3 gpm ($0.002352 \text{ m}^3/\text{s} / 0.0831 \text{ ft}^3/\text{s}$) under typical hydraulic conditions.

Disclaimer:

This flow rate is a general guide and may vary significantly depending on installation-specific factors like slope (fall), water pressure, and hydraulic conditions. For exact performance, site-specific analysis or consultation with a drainage engineer is recommended.