

TECHNICAL BULLETIN

868 SERIES

SUBJECT: Roof Drain Performance Report

BULLETIN NO: DRN-2311

DATE: November 2023

PAGE: 1 of 1

Flow Rate Testing for Roof Drains

In order to provide accurate and objective flow rate data, Sioux Chief has had our most popular roof drain models tested by an accredited third-party test lab and is publishing the data shown below.

The data in the table below was obtained during tests conducted in a laboratory setting (see sketch of test rig in Fig. 1), and according to the ASME A112.6.4/CSA B79.4 Standard for Roof, Deck, and Balcony Drains. The test quantifies the relationship between the flow rate through the drain fixture and the depth of water on the flat roof at the approach to the fixture. It is important to note that 'real-world' variables such as wind, debris, roof design, obstructions, variations in rainfall intensity, roof slope, and others have been excluded from this test in an attempt to make results more reliable and more consistent from manufacturer to manufacturer.

Brief Description of Test

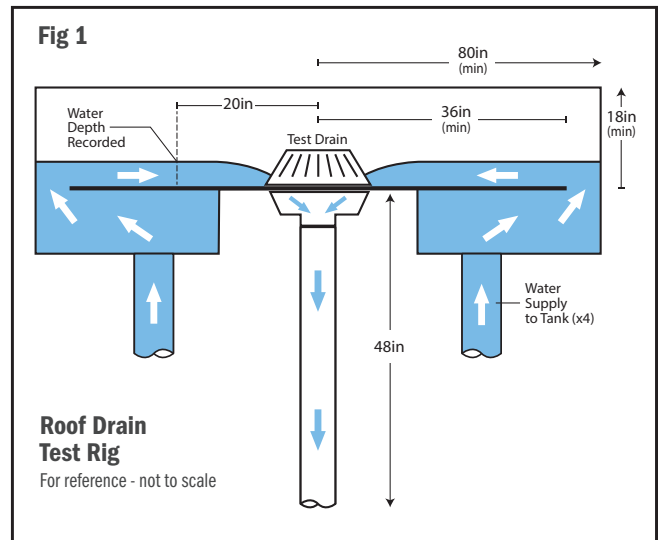
Drain fixtures to be tested are installed in the center of the flat area of the tank in the test rig. A straight length of pipe, 48 inches long, having the same nominal diameter as the drain outlet is connected to the drain fixture. Water is pumped from a reservoir up to the tank at four points until one of the six head elevations is achieved - as measured by pressure transducer¹. Once the target head elevation is obtained and stabilizes², the flow rate³ at the given head elevation is recorded, each second, for five minutes. The average of the 300 data points collected is published in the table below.

¹ Measured to an accuracy of +/- 0.04" by electronic transducers (2)

² Stable is defined as +/- 1/8" of average measured head elevation.

Fluctuations of more than 1/8" are noted in the data

³ Measured to an accuracy of +/- 2% by suitable device located in the supply pump discharge line



Flow Rate Data

Measured in accordance with ASME A112.6.4/CSA B79.4

Roof Drain	Outlet Size	Average Elevation @ 1"	Average Flow Rate @ 1"	Average Elevation @ 2"	Average Flow Rate @ 2"	Average Elevation @ 3"	Average Flow Rate @ 3"	Average Elevation @ 4"	Average Flow Rate @ 4"	Average Elevation @ 5"	Average Flow Rate @ 5"	Average Elevation @ 6"	Average Flow Rate @ 6"
868-523B	3"	0.98"	38.1 GPM	2.02"	68.1 GPM	2.94"	292 GPM	4.01"	289 GPM	5.0"	298 GPM	6.02"	299 GPM
868-524B	4"	1.01"	50.1 GPM	2.01"	217 GPM	3.0"	399 GPM	3.93" (a)	494 GPM	5.07"	549 GPM	6.01"	555 GPM
868-526B	6"	1.06"	58.3 GPM	1.91"	205 GPM	2.95"	398 GPM	4.11" (b)	523 GPM	5.04" (c)	937 GPM	6.1" (d)	1260 GPM
868-528B	8"	0.99"	49.6 GPM	2.03"	228 GPM	2.99"	447 GPM	3.96"	593 GPM	5.02" (e)	868 GPM	5.93" (f)	1341 GPM

Fluctuations of more than 1/8" as noted: (a) 3.67" min - 4.20" max, (b) 3.74" min - 5.44" max, (c) 4.91" min - 5.86" max, (d) 5.67" min - 6.58" max, (e) 4.90" min - 5.23" max, (f) 5.53" min - 7.19" max

Note: Results obtained from the application of flow measurement procedures specified in ASME A112.6.4/CSAB79.4 indicate a flow rate achieved under laboratory conditions using a 48in (1219mm) vertical discharge pipe; all added elements of drainage design may increase or decrease the flow rates reported. Variables such as wind, vortices, debris, roof design, roof obstructions, and slope, can significantly change the roof drain flow rate. Designers are advised to consider these and other possible variables in roof drainage design.

The information contained herein is believed to be reliable, but is subject to change without notice. Before use or installation, the user shall determine the suitability of the information for the intended purpose, and shall assume all risk and liability in connection therewith. With the exception of the information given above, use of any/all Sioux Chief product shall be in accordance with local plumbing codes, common practices, published installation instructions and legal requirements.