



1" ICV Valve Testing Results

APPLICABLE TO THE ANY HYDRANTS THAT
INCORPORATE THE 1" ICV VALVE, INCLUDING
BUT NOT LIMITED TO:

9400-A, 9400WC-A, 9700-A, 9766, 9800-A,
9800WC-A

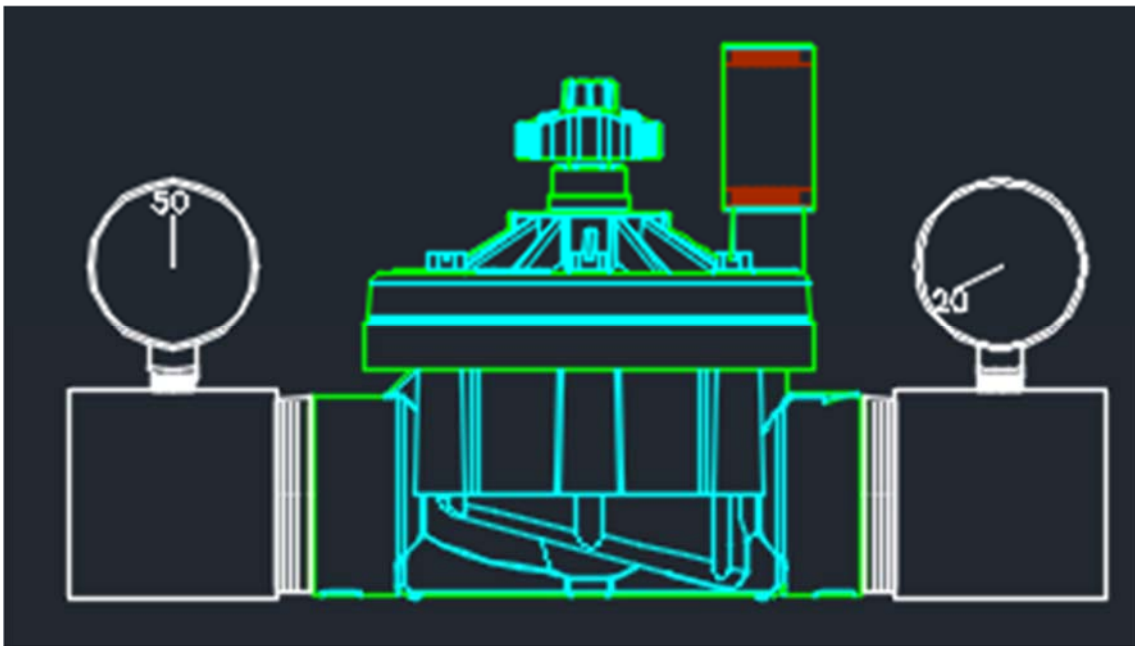
Disclaimer: While this document is complete, comprehensive, and accurate to the best of Kuperle's knowledge, this document is subject to change and is for general information purposes only.

General Overview:

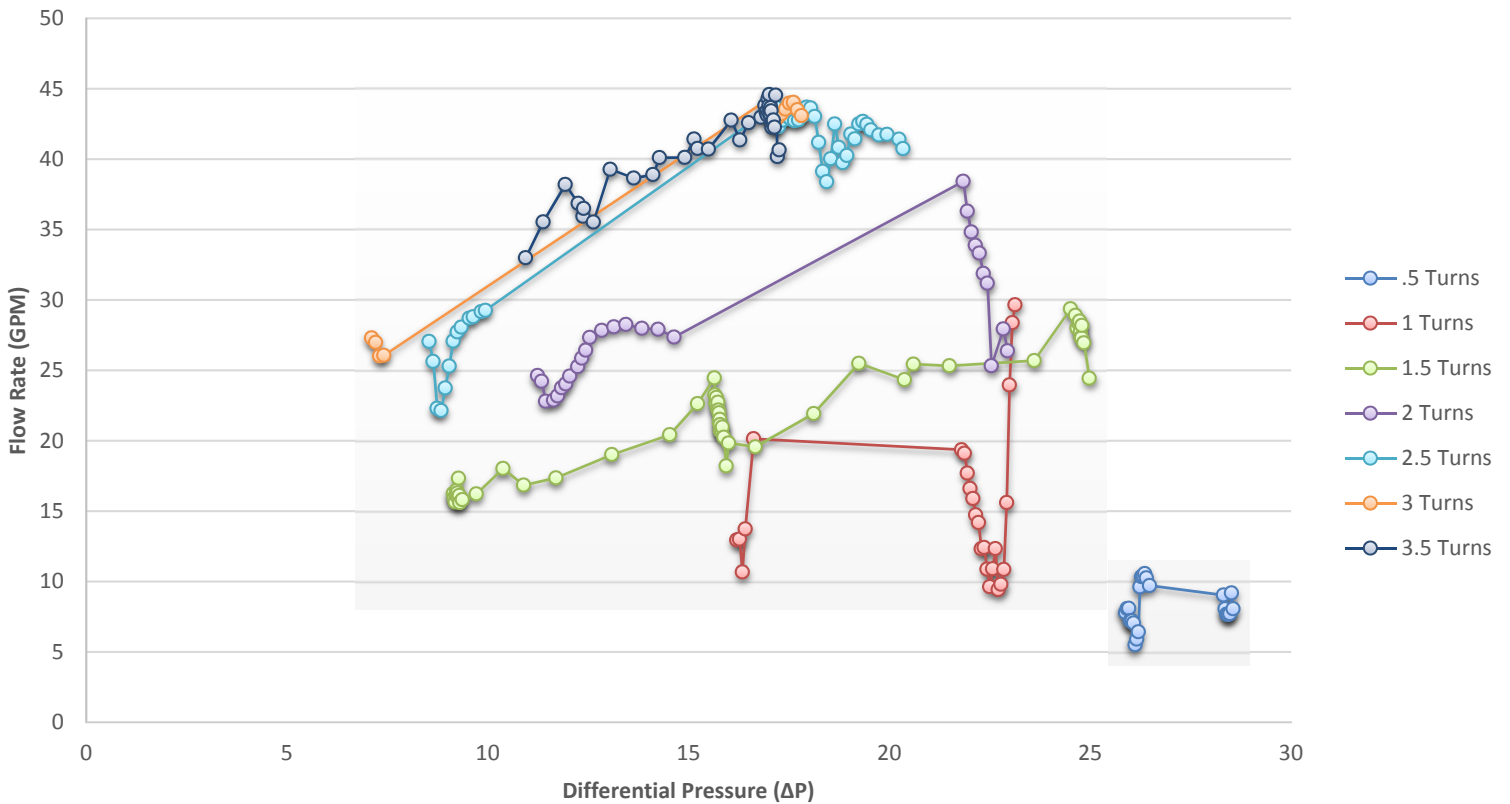
The results listed and illustrated below are a reflection of the valve operating independently of a complete installation. Head loss as a result of pipe size, pipe material, elbows, etc. was not included in these calculations simply because of the large number of different applications.

The differential pressure used in this test was the pressure across the valve itself. For most installations, this will mean that the water pressure on the front of the valve (while in the on position) compared to the water pressure on the discharge side of the valve (also in the on position) will provide a differential pressure. If that cannot be determined sometimes, knowing the static pressure (when the valve is closed) and comparing it to the dynamic pressure (pressure when the hydrant is running) can give an approximate differential pressure.

Below shows a typical set up for finding differential pressure across the valve. Setting up a pressure gauge before and after will allow the user to simply subtract the two numbers to find this value. For the figure below the differential pressure would be 30. Taking the upstream of 50 and subtracting the downstream of 20 gives this value.



1 Inch ICV Valve

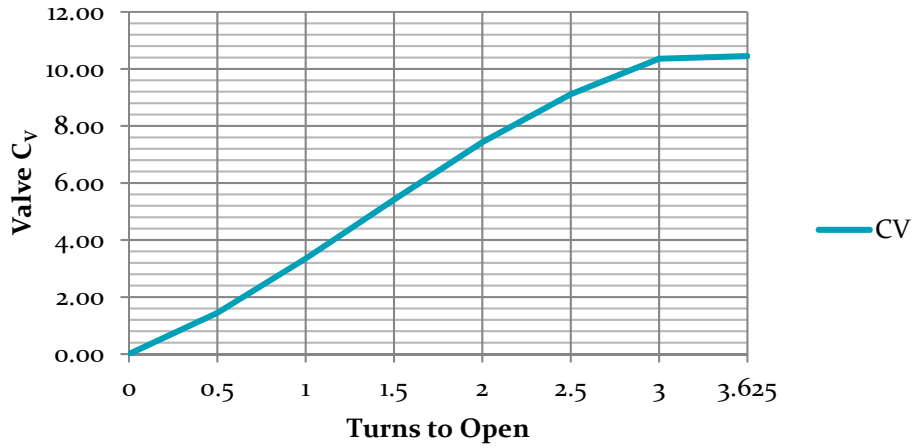


1.5 Turns	
ΔP	(GPM)
10	16
15	21
20	25
25	26

3.5 Turns	
ΔP	(GPM)
10	34
15	40
17	42

Shown is an average of the actual test data received from the independent third party testing facility by Kupferle. The breaks are thought to be back pressure or turbulence inside of the valve, where at some differential pressure point the actual flow of the water changes and flow rate increases. This would also explain the varying nature of the data points. The results of the test are more reliable when the valve is open.

ICV 1 inch -- C_V vs Turns Open



CV	Turns Open
0.00	0
1.44	0.5
3.35	1
5.42	1.5
7.43	2
9.11	2.5
10.36	3
10.45	3.625