Square Root Flow and DP Table

Basis: Flow is proportional to the square root of differential pressure: Q% = 10 × √(DP%), DP% = Q%² ÷ 100.

instrumentationblog.in/downloads/engineering-reference-tables/square-root-flow-dp-table/

DP percent to flow percent

DP %	Flow %	Linear DP output mA	Square rooted output mA
0	0.00	4.000	4.000
1	10.00	4.160	5.600
2	14.14	4.320	6.263
4	20.00	4.640	7.200
5	22.36	4.800	7.578
9	30.00	5.440	8.800
10	31.62	5.600	9.060
16	40.00	6.560	10.400
20	44.72	7.200	11.155
25	50.00	8.000	12.000
30	54.77	8.800	12.764
36	60.00	9.760	13.600
40	63.25	10.400	14.119
49	70.00	11.840	15.200
50	70.71	12.000	15.314
60	77.46	13.600	16.394
64	80.00	14.240	16.800
70	83.67	15.200	17.387
80	89.44	16.800	18.311
81	90.00	16.960	18.400
90	94.87	18.400	19.179
100	100.00	20.000	20.000

Flow percent to DP percent

Flow %	DP %	Linear DP output mA	Square rooted output mA
0	0.00	4.000	4.000
5	0.25	4.040	4.800
10	1.00	4.160	5.600
15	2.25	4.360	6.400
20	4.00	4.640	7.200
25	6.25	5.000	8.000
30	9.00	5.440	8.800
35	12.25	5.960	9.600
40	16.00	6.560	10.400
45	20.25	7.240	11.200
50	25.00	8.000	12.000
55	30.25	8.840	12.800
60	36.00	9.760	13.600
65	42.25	10.760	14.400
70	49.00	11.840	15.200

75	56.25	13.000	16.000
80	64.00	14.240	16.800
85	72.25	15.560	17.600
90	81.00	16.960	18.400
95	90.25	18.440	19.200
100	100.00	20.000	20.000

Notes

- Below about 10 % flow (1 % DP) the signal is very sensitive to zero errors; most systems apply low flow cut off.
- Doubling the flow needs four times the DP.

Free download from instrumentationblog.in. Check values against the current edition of the standard for design work.