Equivalent Leak Standards

APPLICATION BULLETIN #142B September, 2006

15 and 20 Micron Equivalent Leak Standards

Leak testing specifications define test criteria in terms of:

- leak rate (sccm) and test pressure
- hole size (microns) and path length (mm).

Leak testing is performed by measuring the total flow from a part at a controlled test pressure due to the presence of a hole or series of holes. Since it is impossible to see and measure the area of the hole or holes, flow measurement is used to gage the effective area. In order to correlate the leak measurement techniques to the effective hole area, a leak standard with a known leak rate at a specified pressure or known area and path length are used.

Cincinnati Test Systems offers leak standards that are manufactured to a specified leak rate at a specified pressure. Or we manufacture leak standards that are equivalent to 15 or 20 micron holes with a path length of 1.5 mm. These standards match the flow characteristics of a cyclical hole over the pressure range of 10 to 200 psig. Because these standards are made to a specific leak rate (+/-1% of flow rate or +/0.1sccm whichever is greater) and not hole size, they are very consistent from leak standard to leak standard.

We offer the following standards to meet Ford Specification ES-YU5A-6000-AC. We also offer other equivalent leak standards to match other test specifications.

Calibration Leak Standards

15 Micron/1.5 mm Equivalent Leak Standard
520-15 micron-1.5mm-G
Calibrated Leak/Flow Standard
Manufactured at 50 psig – 2.7 sccm
Test Range: 10 psig to 200 psig air to atmosphere testing
Calibration Data and Standard Pressure/Leak Rate Curve Provided

20 Micron/1.5 mm Equivalent Leak Standard
520-20 micron-1.5 mm-G
Calibrated Leak/Flow Standard
Manufactured at 50 psig – 6.3 sccm
Test Range: 10 psig to 200 psig air to atmosphere testing
Calibration Data and Standard Pressure/Leak Rate Curve Provided

Additional mounting configurations (available at no additional charge.

G – General assembly
(1/8-27 FNPT thd inlet port)
I – Inline assembly
(1/8-27 FNPT thd inlet and outlet ports)
21 – Straight thread assembly
(1/2-20 UNF –2A full thread)
C20 – CPC assembly
(MC10-02 Colder quick connect)
C20FC – Miniature Assembly
(7/16-20 male thread)
1/8MNPT – Compact Assembly
(1/8-27 MNPT thread)
U – Uson replacement
(Swagelok B-QC4-B quick connect)
24 – M24 instrument
(7/16-20 male thread)
M10x1.0 – Metric small
(M10x1.0 6g thread)
M10-1.5 – Metric big
(M10x1.5 6g thread)

Visit www.cincinnati-test.com for complete drawings of each mounting assembly.

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15 Micron Equivalent Leak Standard

(Equivalent flow characteristics for a 15 micron hole, 1.5 mm path length)

Gage Pressure psig	Absolute Pressure psia	Outlet psig	Measured 15 micron sccm	Flow through Equivalent accm	Leak sccs
200	214.7	0	15.4	1.05	0.257
190	204.7	0	14.5	1.04	0.241
180	194.7	0	13.6	1.02	0.226
170	184.7	0	12.6	1.01	0.211
160	174.7	0	11.7	0.98	0.195
150	164.7	0	10.8	0.96	0.180
140	154.7	0	9.9	0.94	0.165
130	144.7	0	9.0	0.92	0.151
120	134.7	0	8.2	0.89	0.136
110	124.7	0	7.3	0.86	0.122
100	114.7	0	6.5	0.83	0.108
90	104.7	0	5.7	0.80	0.095
80	94.7	0	4.9	0.76	0.082
70	84.7	0	4.2	0.72	0.069
60	74.7	0	3.4	0.67	0.057
50	64.7	0	2.7	0.62	0.045
40	54.7	0	2.0	0.55	0.034
30	44.7	0	1.4	0.46	0.024
20	34.7	0	0.8	0.36	0.014
10	24.7	0	0.3	0.20	0.006

20 Micron Equivalent Leak Standard

(Equivalent flow characteristics for a 20 micron hole, 1.5 mm path length)

Pressure Gage psig	Pressure Absolute psia	Outlet psig	Measured 20 micron sccm	Flow through Equivalent accm	Leak sccs
200	214.7	0	30.2	2.07	0.504
190	204.7	0	28.5	2.05	0.475
180	194.7	0	26.9	2.03	0.448
170	184.7	0	25.2	2.00	0.420
160	174.7	0	23.5	1.98	0.392
150	164.7	0	21.8	1.94	0.363
140	154.7	0	20.2	1.91	0.336
130	144.7	0	18.5	1.88	0.309
120	134.7	0	17.0	1.85	0.283
110	124.7	0	15.4	1.81	0.256
100	114.7	0	13.8	1.77	0.230
90	104.7	0	12.3	1.72	0.204
80	94.7	0	10.8	1.67	0.179
70	84.7	0	9.2	1.60	0.154
60	74.7	0	7.7	1.52	0.129
50	64.7	0	6.3	1.43	0.105
40	54.7	0	4.9	1.31	0.082
30	44.7	0	3.5	1.16	0.059
20	34.7	0	2.2	0.92	0.036
10	24.7	0	1.0	0.58	0.016