

Fermilab Volume update

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8/14/2015

Weight Check

Chambers	Mass without box	Adjusted Mass: Subtracked attachments	Adjusted Mass to length ratio
0	2503	1485	20.62
1	2543	1478	20.53
2	2394	1374	20.21
3	2422	145	20.51
4	2409	1392	20.17

If one of the two pipes was "L" instead of "K" we would expect a - 2 in Adjusted mass to length ratio. "M" would be -4.

2 different companies for pipes but both are marked "K"

Water test

Chambers	Water Volume
0	530±10
1	540±10
2	515±10
3	505±10
4	510±10

Detached box from rest of chamber.
Started with beaker of 600 cc of water.
Measured water left over when chamber filled.



Box test

Chambers	Water Volume
0	44±10
1	47±10
2	50±10
3	45±10
4	40±10

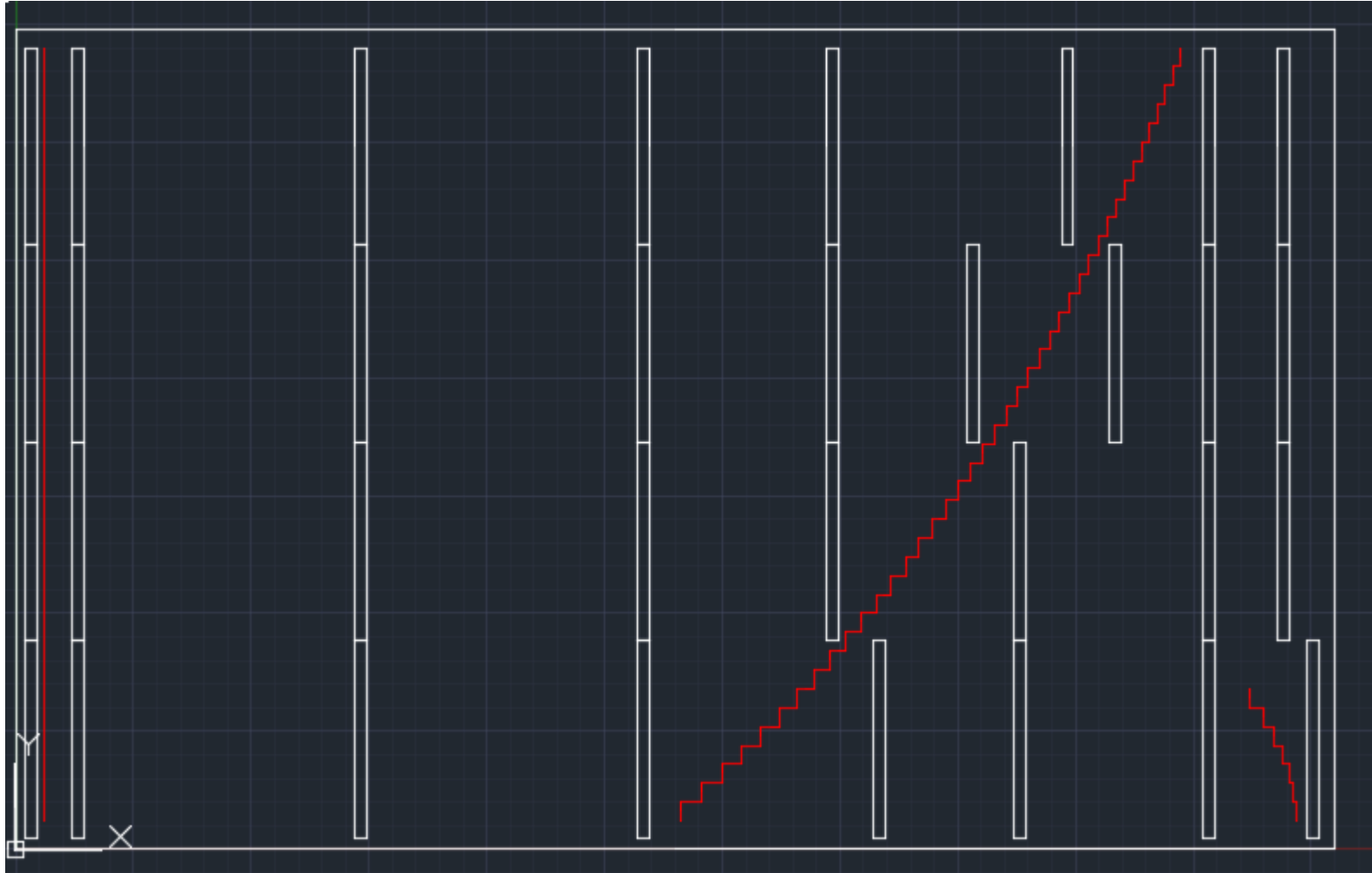
Just detector in aluminum box with fan.
Covered with teflon tape to seal.
Injected .02 cc and .04 cc CO₂ to
determine volume

After completing all measurements,
Reasonable to assume all boxes were 45±10

Volume measurements summary

Chamber	Geometric 4/15	Tygon Tube 4/15	Injection Argon/CO2 5/15	Injection pure CO2 7/15	Water + box measurement 8/12
0	572 ± 35	569 ± 28	595 ± 18	630 ± 21	575 ± 14
1	572 ± 35	582 ± 15	617 ± 24	629 ± 18	585 ± 14
2	544 ± 35	555 ± 19	604 ± 16	632 ± 18	560 ± 14
3	549 ± 35	494 ± 5	530 ± 16	544 ± 15	550 ± 14
4	554 ± 35	481 ± 20	544 ± 15	552 ± 15	555 ± 14

140 cm x 87 cm



4 bars each column
33 bars total

In cm from bottom left corner of panel

Upper left Corner of top row coordinates	(1,85) ; (6,85) ; (36,85) ; (66, 85) ; (86,85) ;	(111,85) ;	(126,85), (134,85)
Upper left Corner of second row coordinates	(1,64) ; (6,64) ; (36,64) ; (66, 64) ; (86,64) ;	(101,85) : (116,64) ;	(126,64), (134,64)
Upper left Corner of Third row coordinates	(1,43) ; (6,43) ; (36,43) ; (66, 43) ; (86,43) ;	(106,64) ;	(126,43), (134,43)
Upper left Corner of bottom row coordinates	(1,22) ; (6,22) ; (36,22) ; (66, 22) ; (91,43) ;	(106,64) ;	(126,43), (137,43)