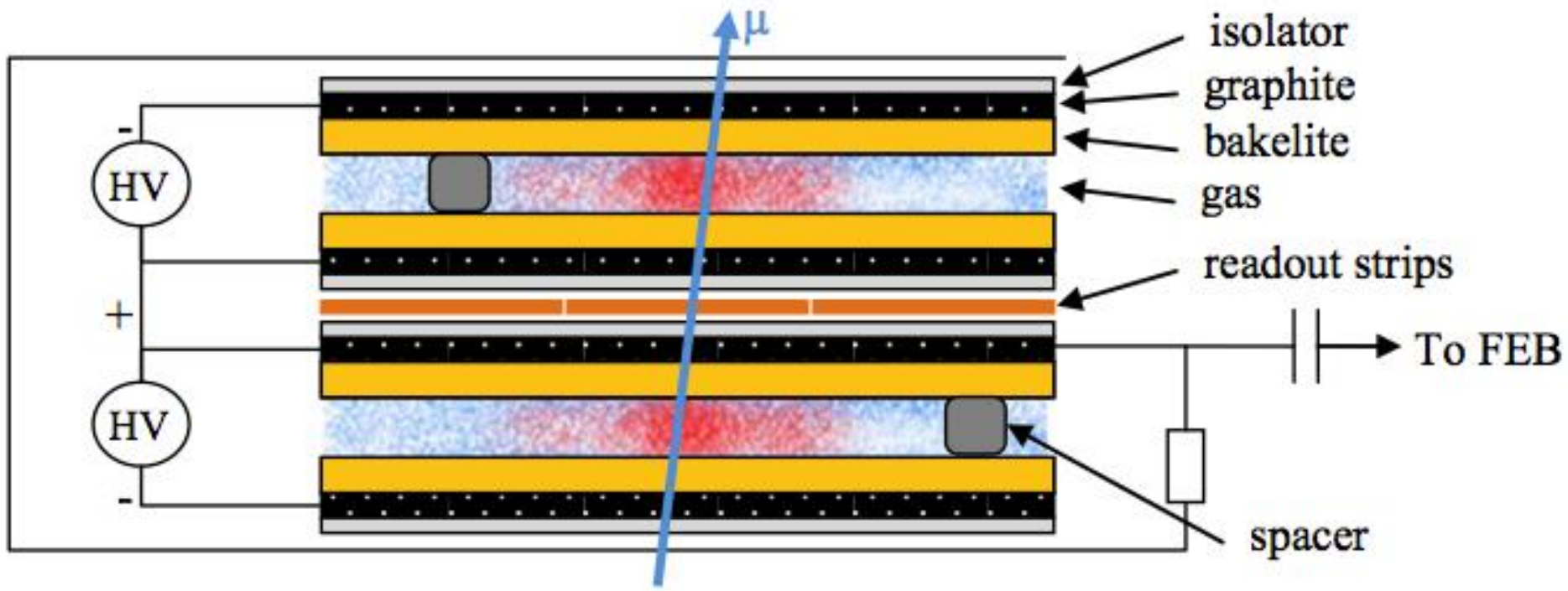
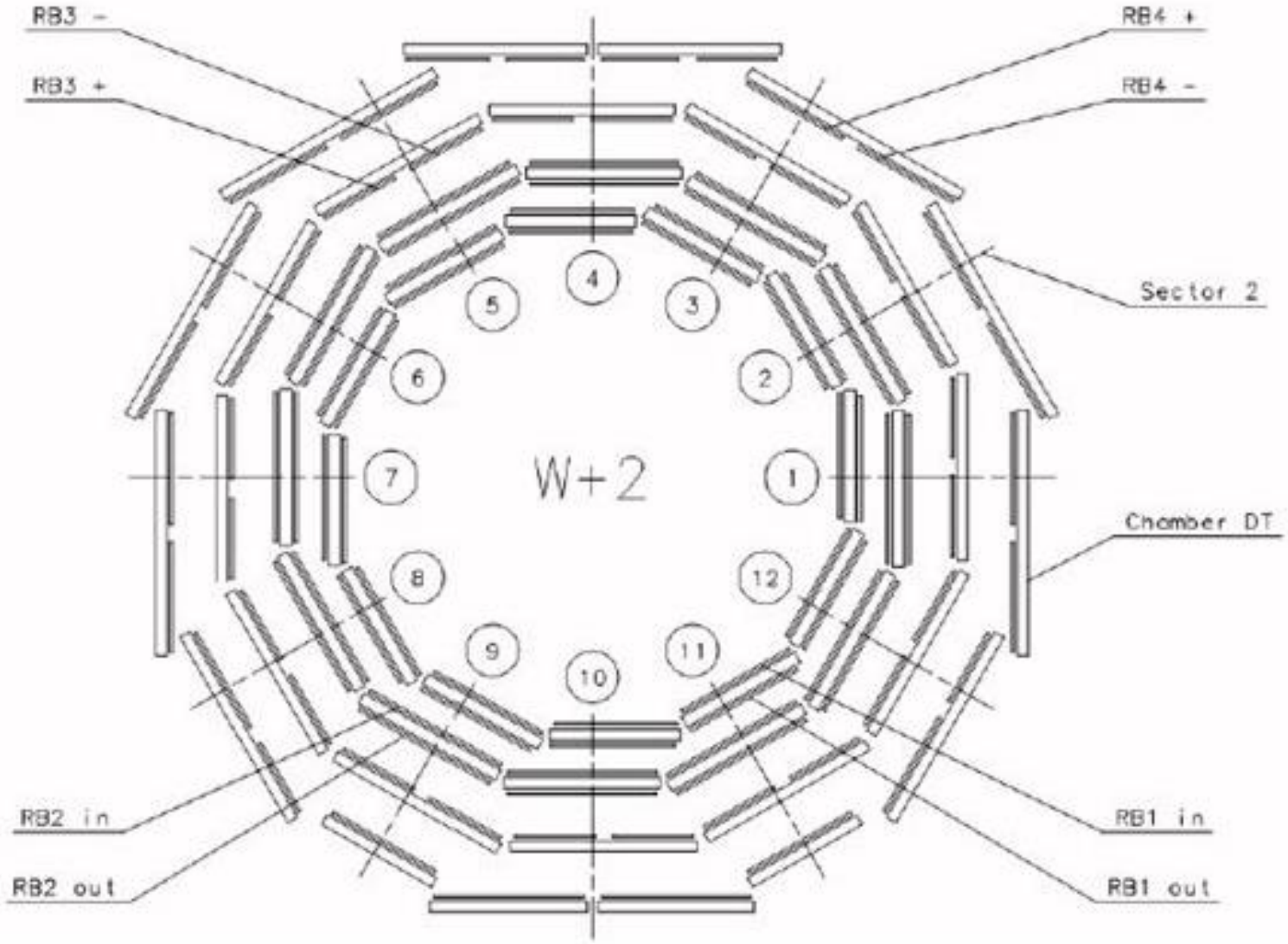
Разработване на алгоритъм за засичане на течове

CMS RPC

Resistive Plate Chambers - RPC

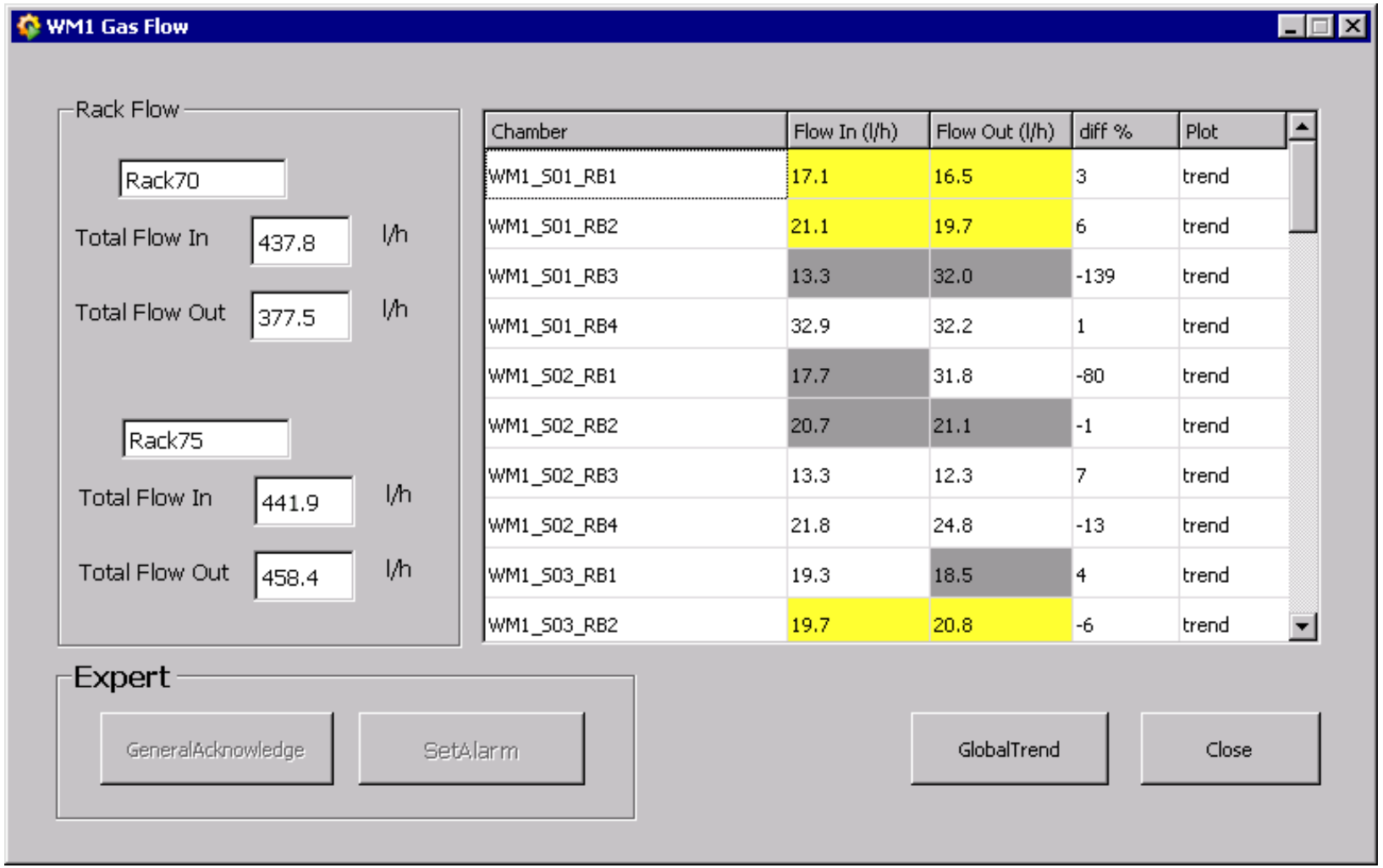


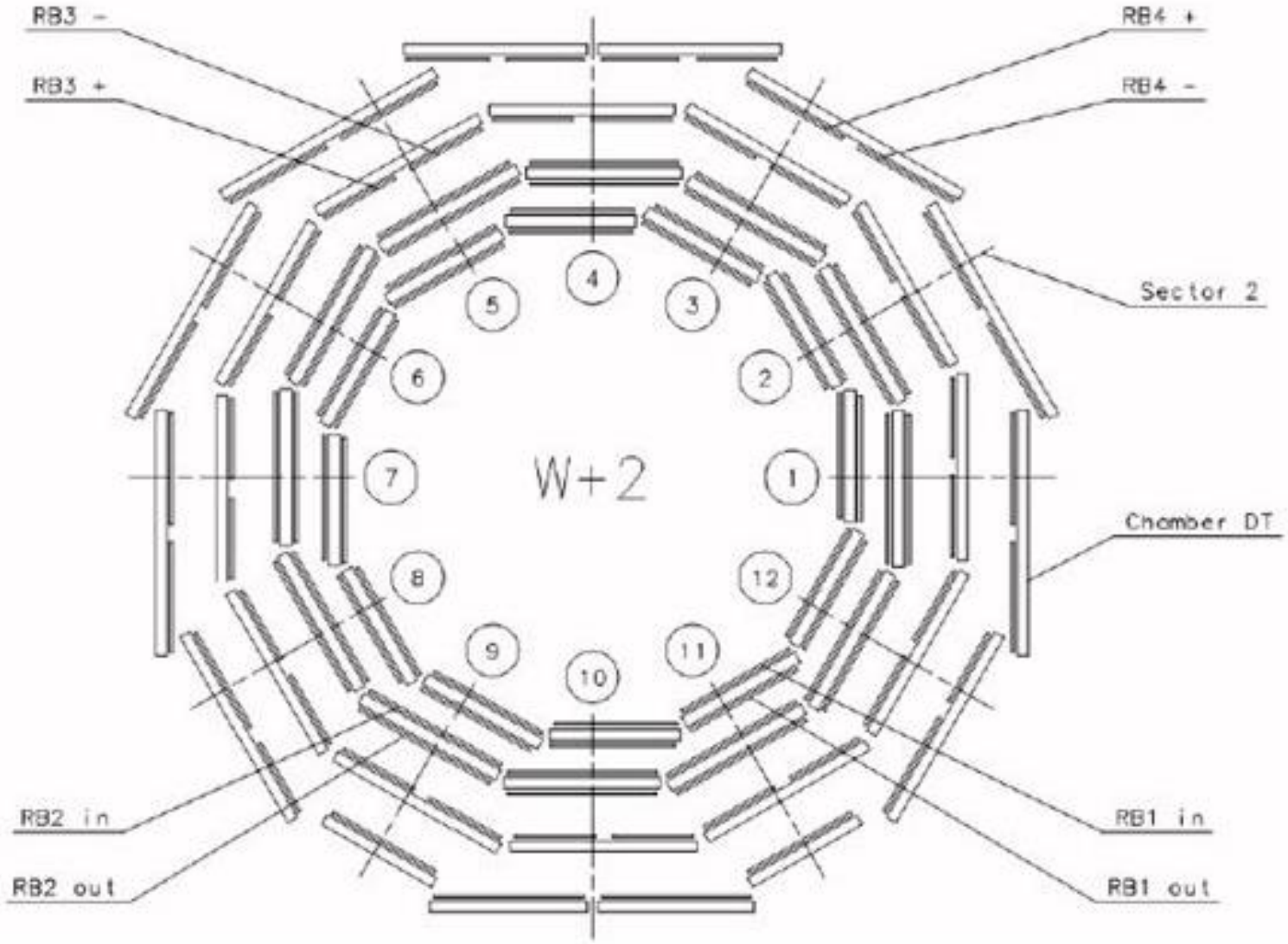

RB3 -
RB3 +
RB4 +
RB4 -
Sector 2
Chamber DT
W+2
RB2 in
RB2 out
RB1 in
RB1 out
1
2
3
4
5
6
7
8
9
10
11
12

- 95% от газовата смес е C2H2F4 – фреон
- В атмосфереата изтичат около 1000 литра на ден поради течове в системата
- Много фреон в атмосферата → Глобално затопляне

Цел на проекта: Откриване на **НОВИ** течове в газовата система

Софтуера: Detector Control System (DCS)




RB3 -
RB3 +
RB4 +
RB4 -
Sector 2
Chamber DT
W+2
RB2 in
RB2 out
RB1 in
RB1 out
1
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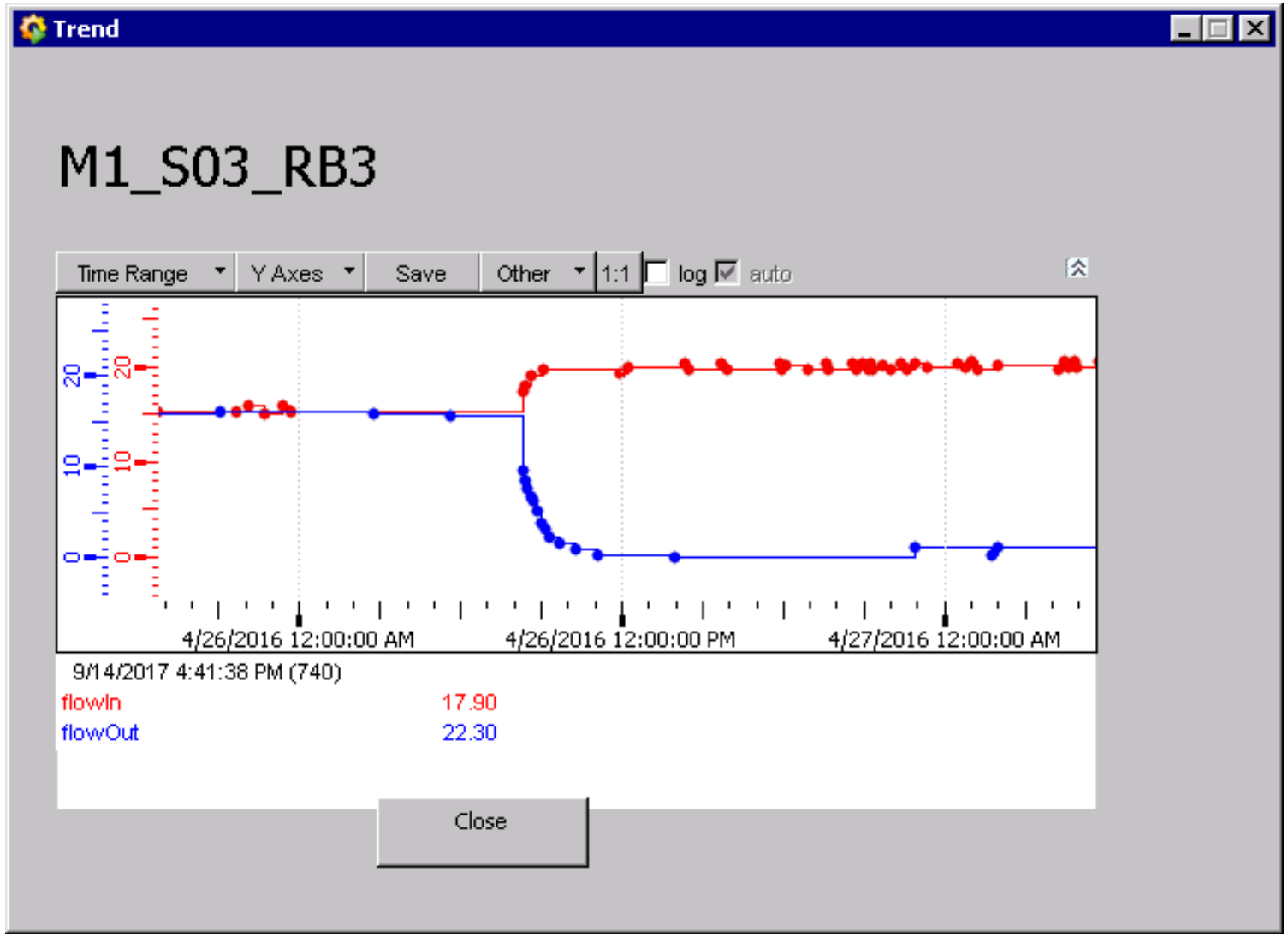
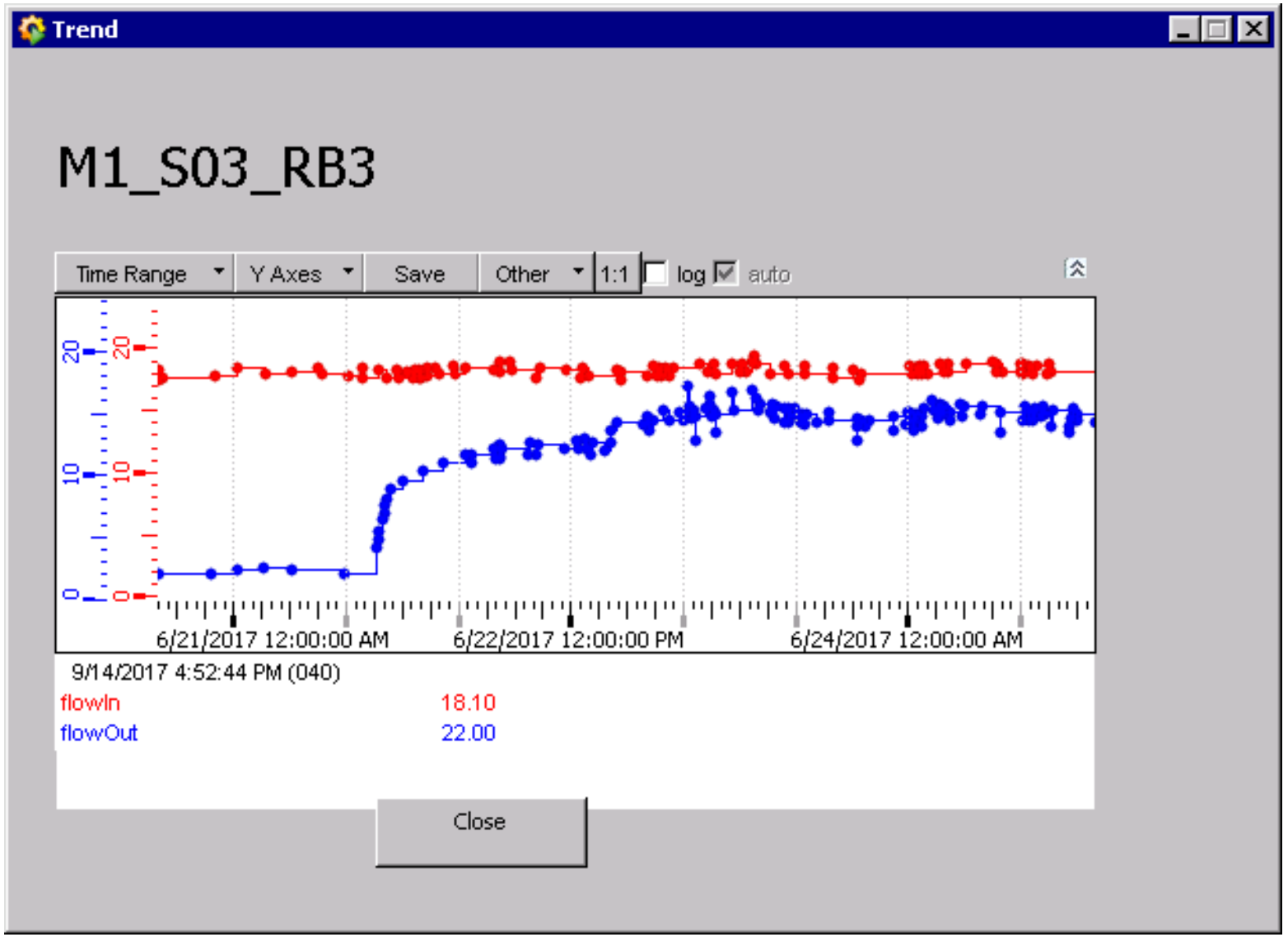
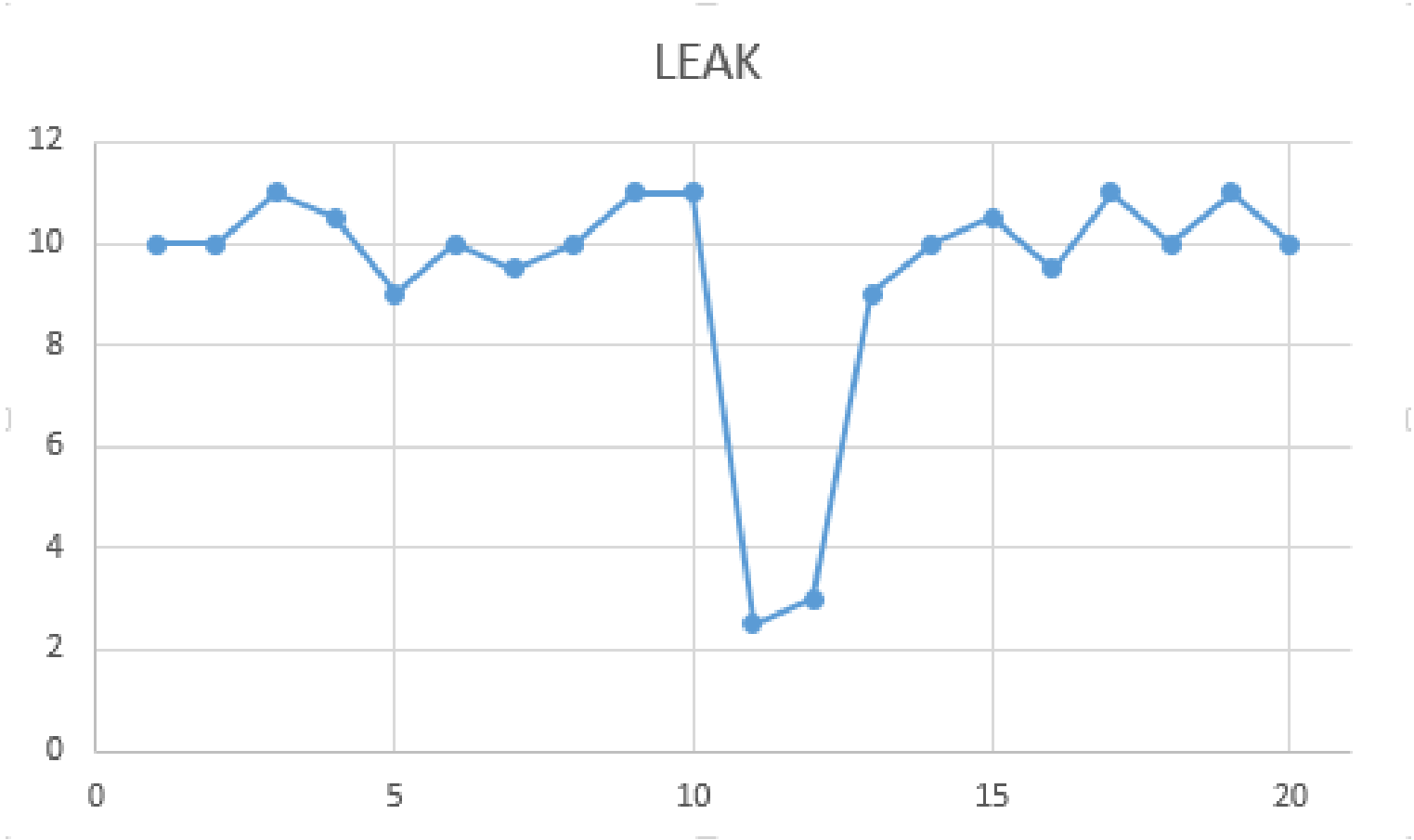
Характерни течове

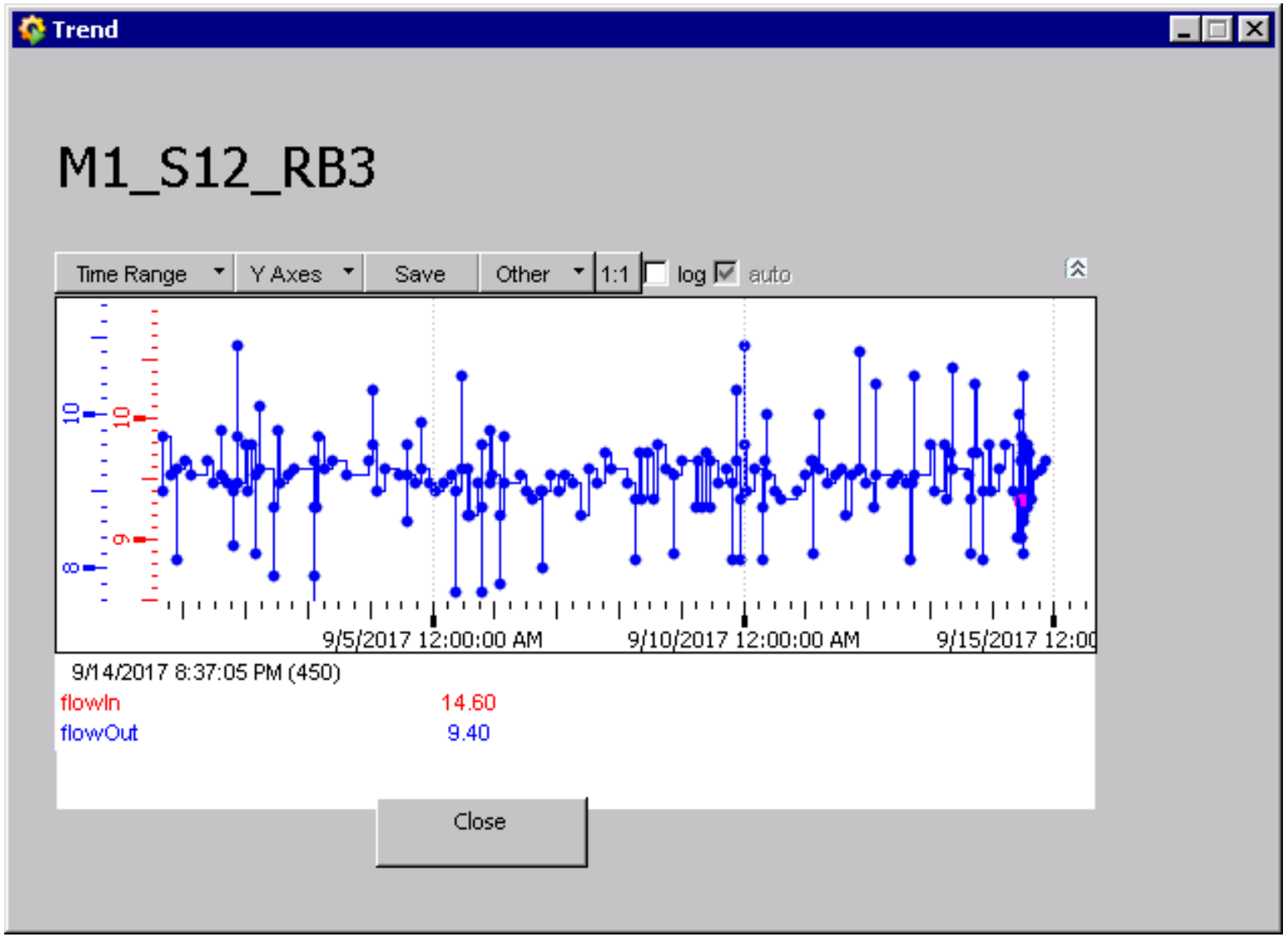


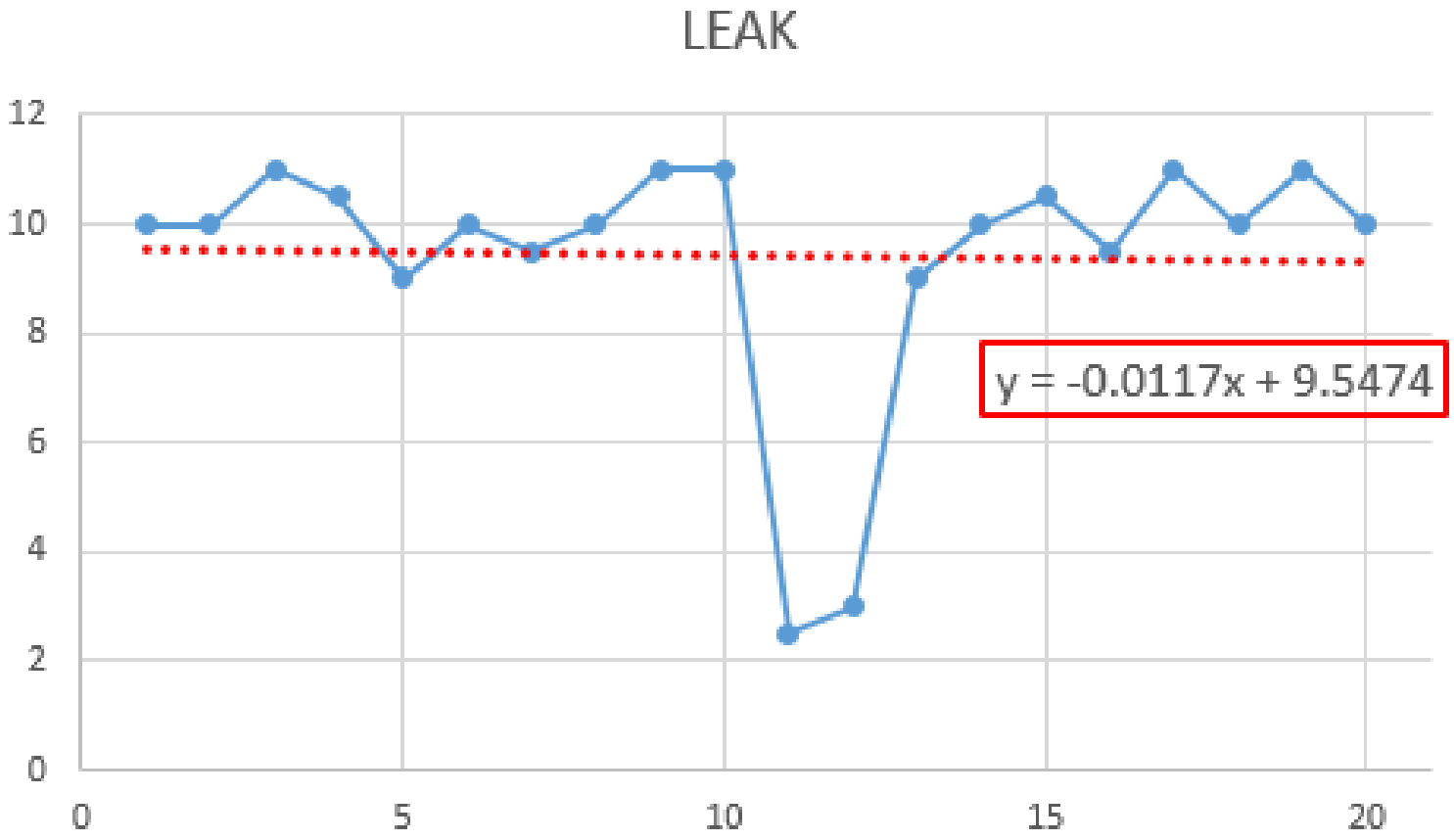
Характерни течове



Рязък спад и рязко покачване

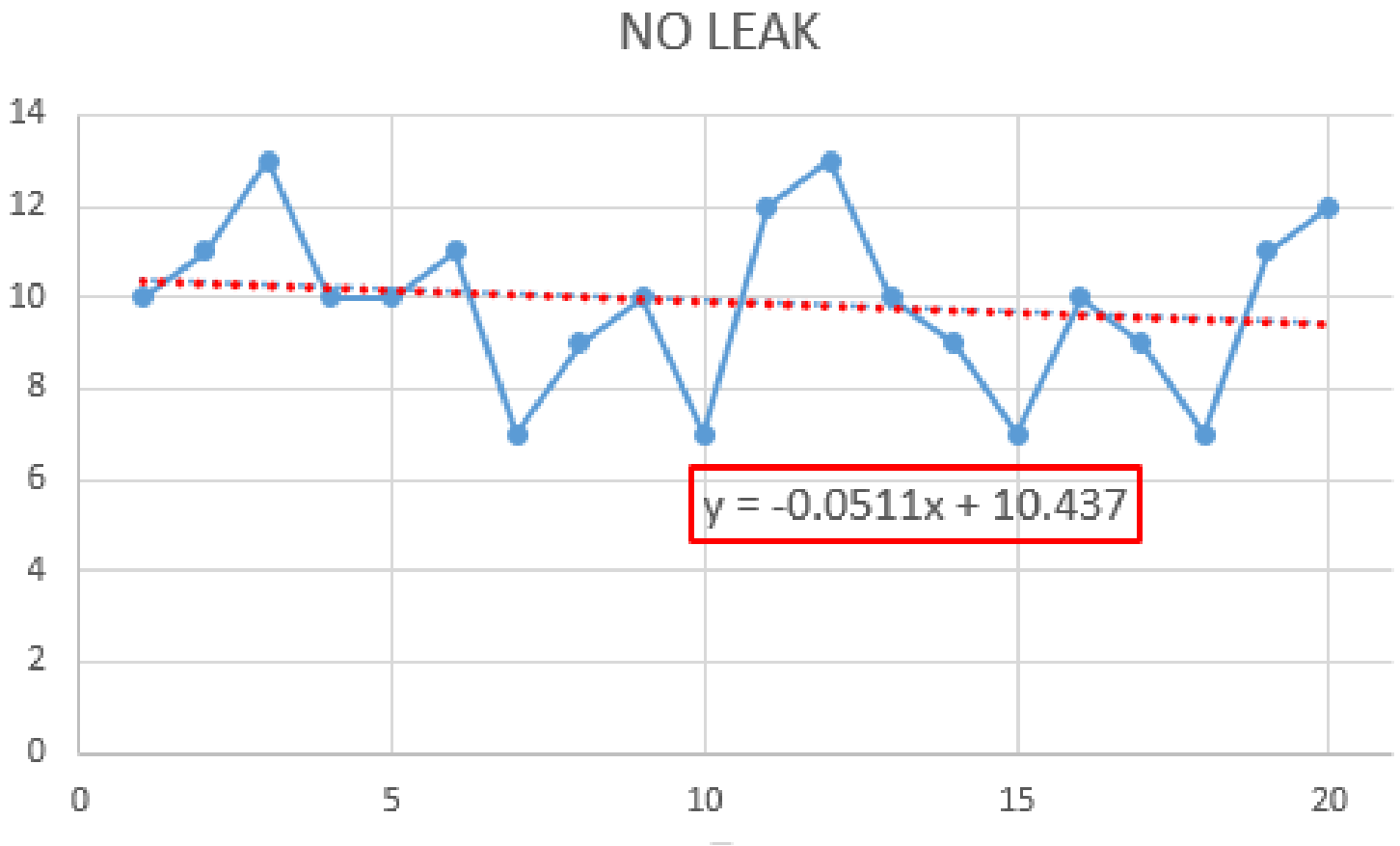



Trend
M1_S12_RB3
Time Range
Y Axes
Save
Other
1:1
log
auto
10
10
9
8
9/5/2017 12:00:00 AM
9/10/2017 12:00:00 AM
9/15/2017 12:00
9/14/2017 8:37:05 PM (450)
flowIn
14.60
flowOut
9.40
Close



$\sigma = 2.291$

$D_i = 7.056$



$\sigma = 2.034$

$D_i = 3.794$

CERN FTW