

MDT Gas Rack 64 Channel 09

Distribution Rack 64 Channel 9

Channel 9 OK

Pressure 3023.0 mbar

Flow In 291.5 NI/h 0.95 V/d

Flow Out 449.5 NI/h 1.47 V/d

Current Values

State ON Gas Loss -159.0 NI/h

Status OK Gas Loss -54.68 %

Gas-HV Interlock FALSE

Connected Multilayers

EOL1C13 ML1 → EOL2C13 ML1

EOL3C13 ML1 → EOL4C13 ML1

EOL5C13 ML1 → EOL6C13 ML1

■ Gas OK for HV ■ Gas HV Interlock

Pressure and Flow History

Time Range: Sun 03 Jun 2018 12:00:00 AM CEST to Sun 10 Jun 2018 12:00:00 AM CEST

Y Axis: Pressure [mbar]

pressure

10 days

Pressure: 3023.00

Time Range: Sun 03 Jun 2018 12:00:00 AM CEST to Sun 10 Jun 2018 12:00:00 AM CEST

Y Axis: Input Flow [NI/h] [NI/h], Output Flow [NI/h] [NI/h]

output flow

input flow

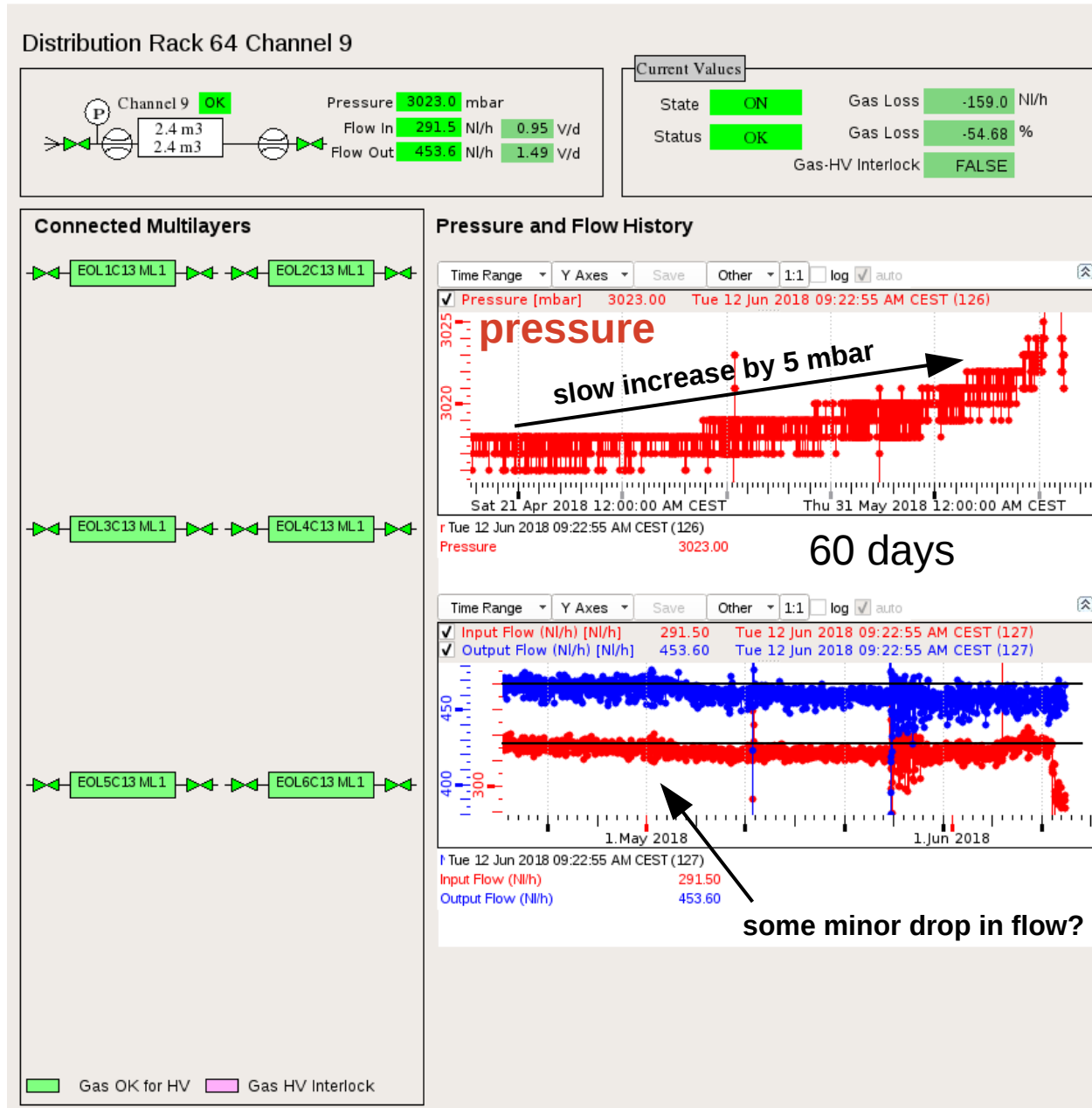
Input Flow (NI/h): 291.50

Output Flow (NI/h): 449.50

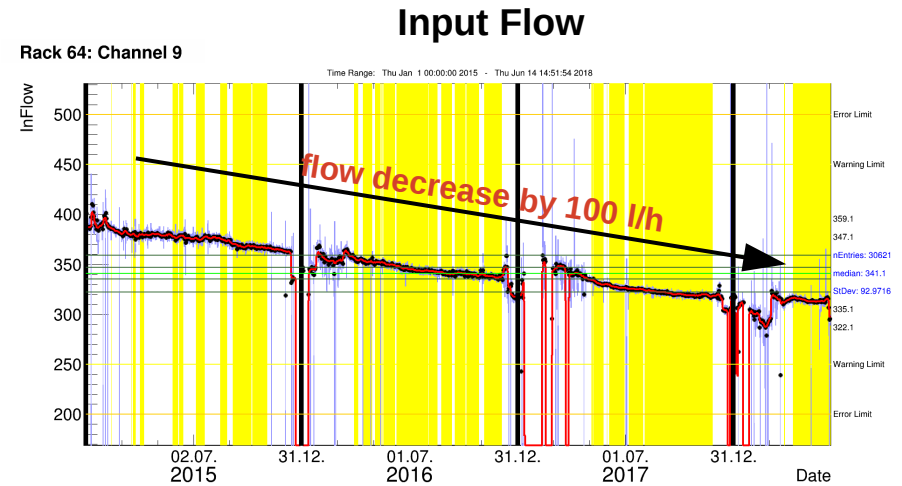
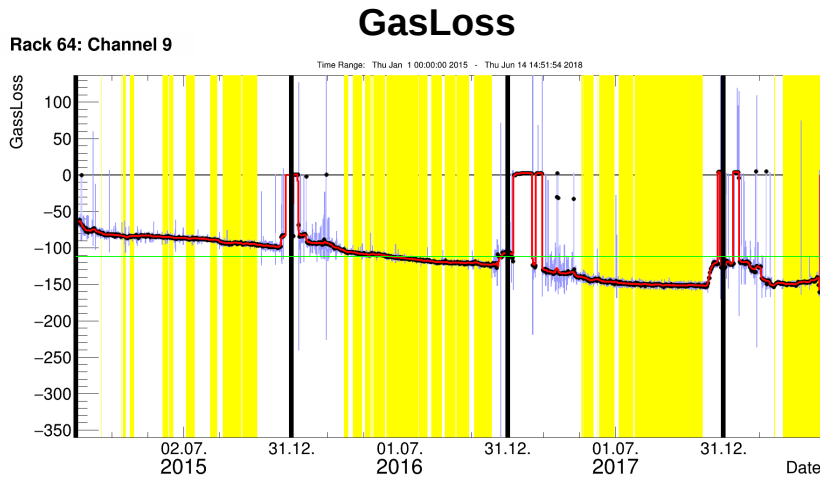
drop in input flow seen in parallel

no change in input flow seen in parallel

MDT Gas Rack 64 Channel 09

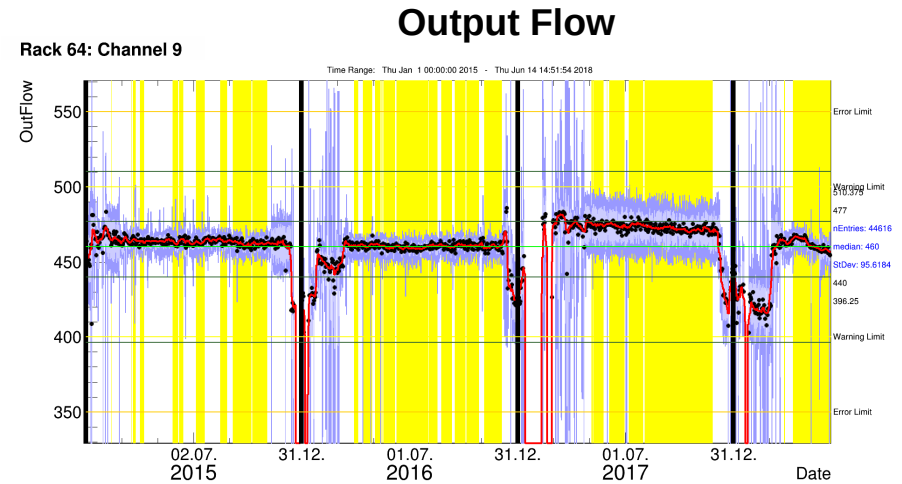
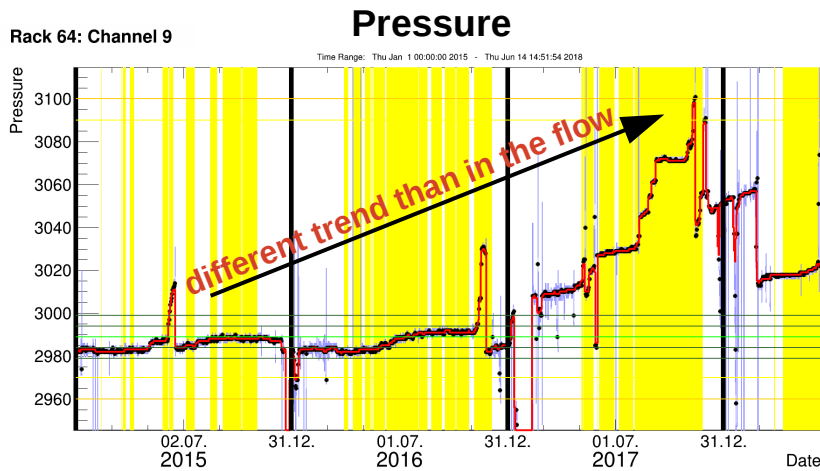


MDT Gas Rack 64 Channel 09



- daily median
- median spread within the day
- maximum spread within the day
- 7-day running median
- toroid magnet at full field

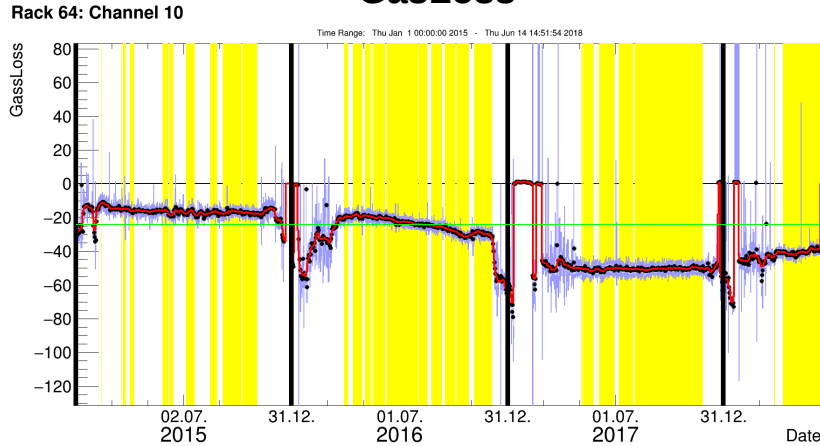
correlated?



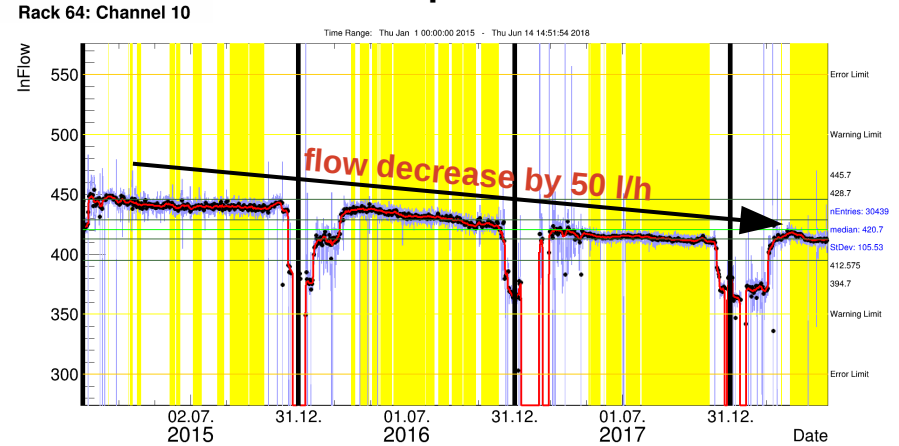
- is there a ,real' problem (e.g. partially blockage of a pipe)
- is this a sensor problem?

MDT Gas Rack 64 Channel 10

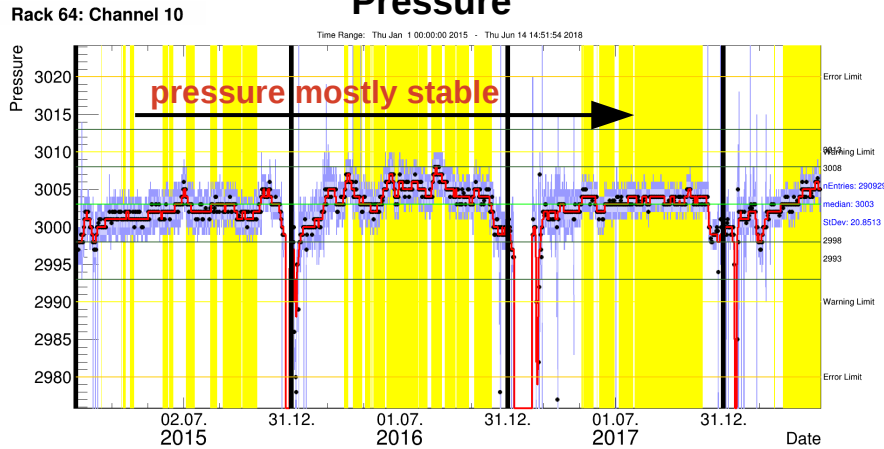
GasLoss



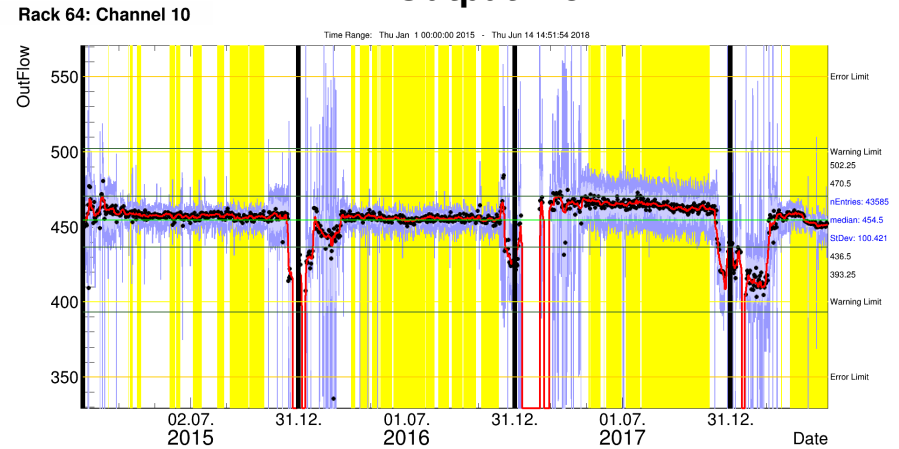
Input Flow



Pressure

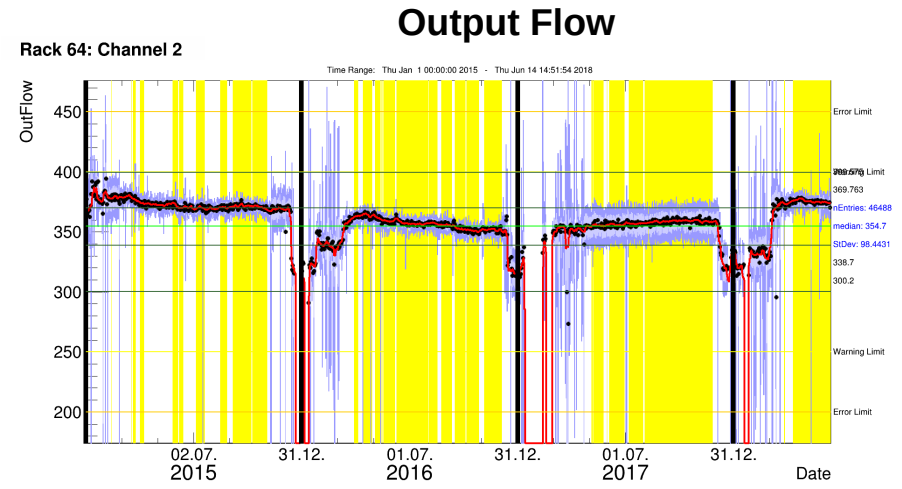
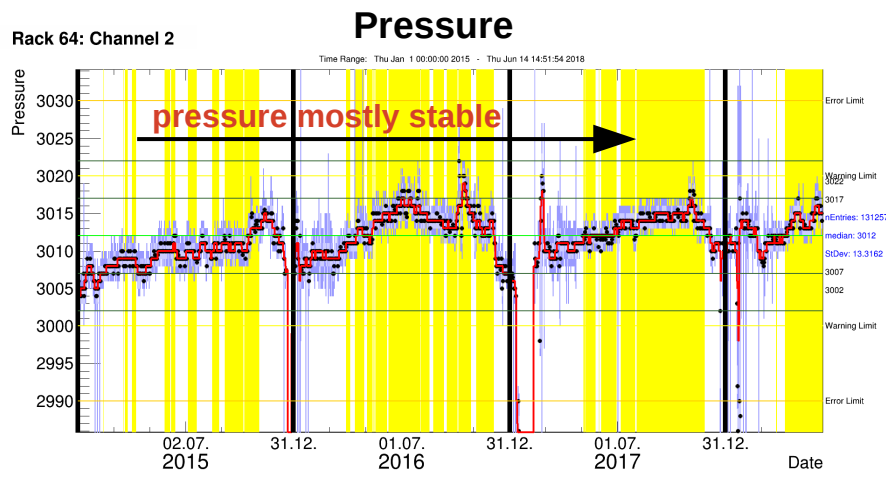
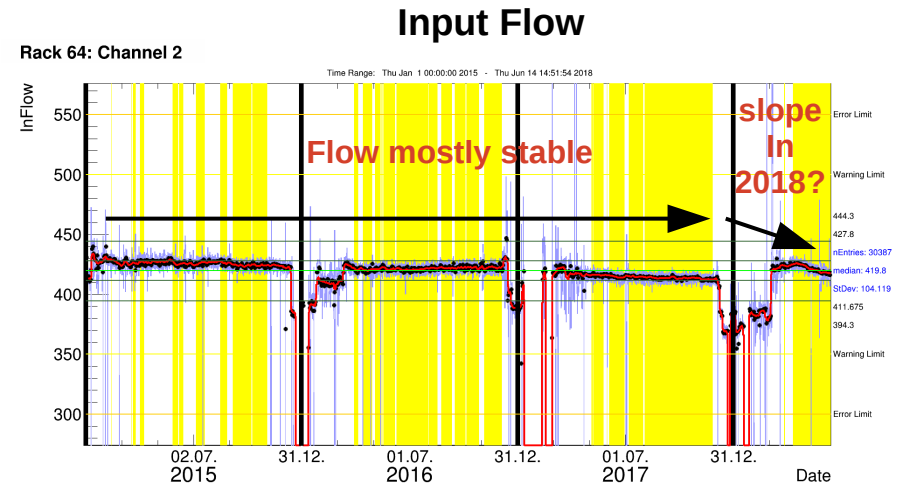
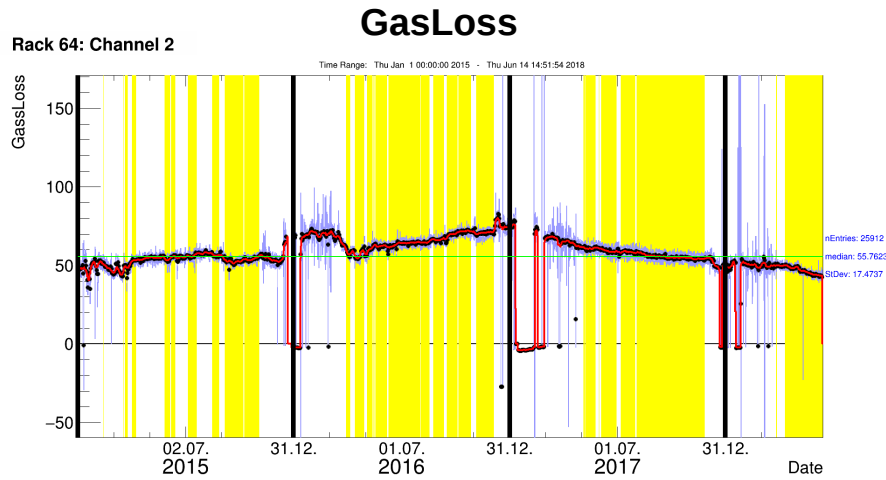


Output Flow



- similar decrease in input flow as in channel 9
- no change of pressure as in channel 9

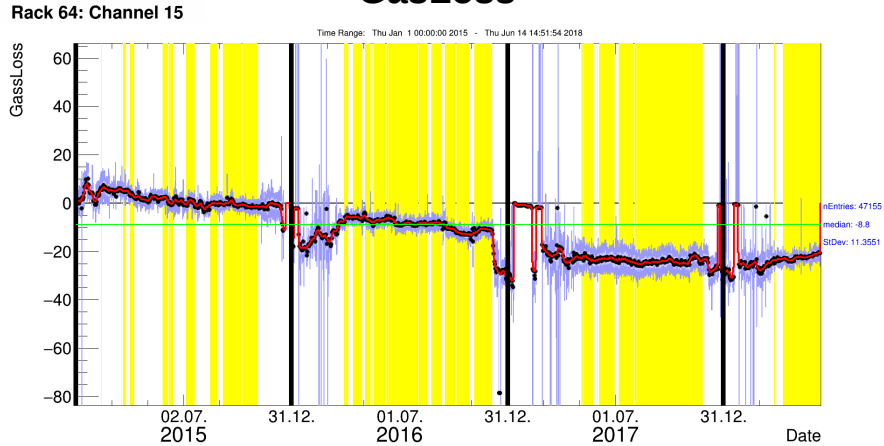
MDT Gas Rack 64 Channel 02



- all flows and pressure mostly stable throughout 2015-2018

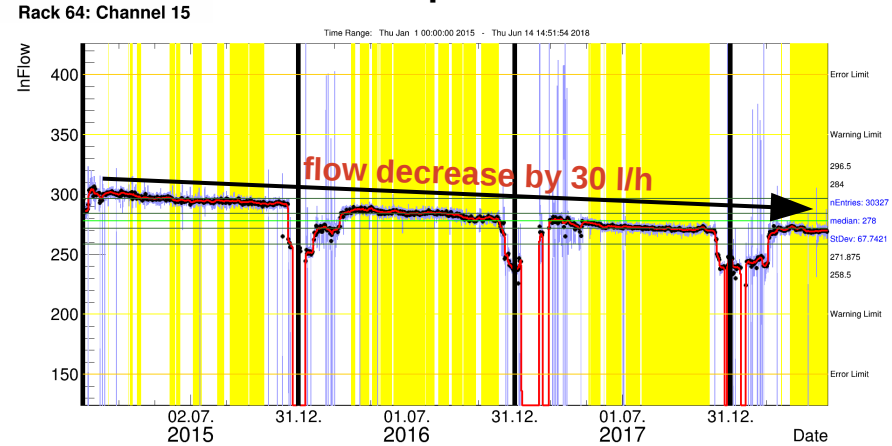
MDT Gas Rack 64 Channel 15

GasLoss

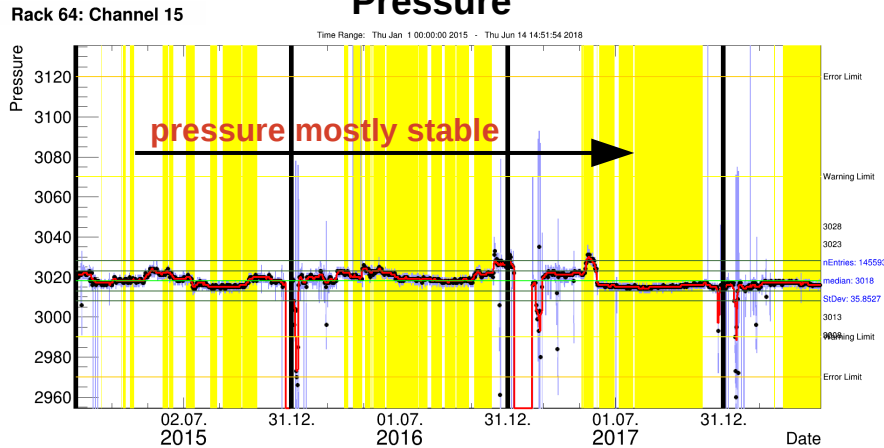


- daily median
- median spread within the day
- maximum spread within the day
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- toroid magnet at full field

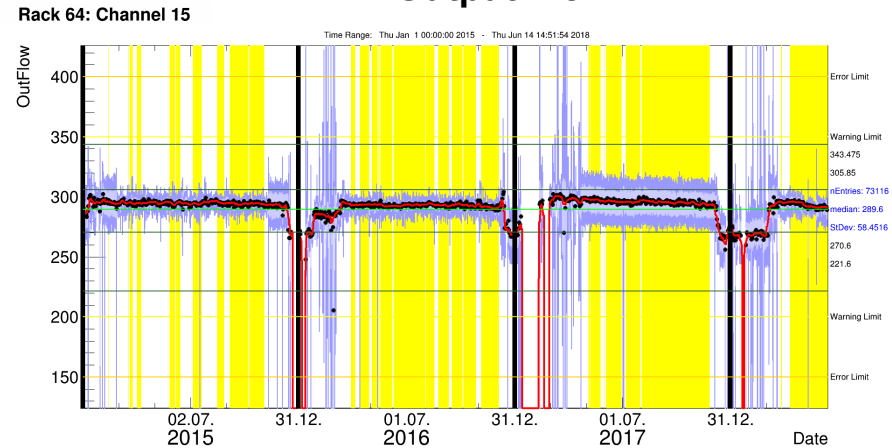
Input Flow



Pressure



Output Flow

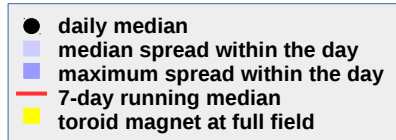
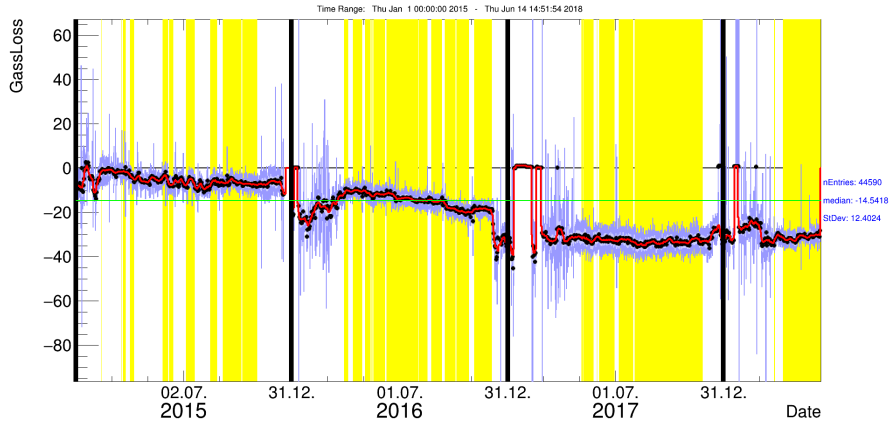


- similar decrease in input flow as in channel 9 (not as steep though)
- no change of pressure as in channel 9

MDT Gas Rack 64 Channel 13

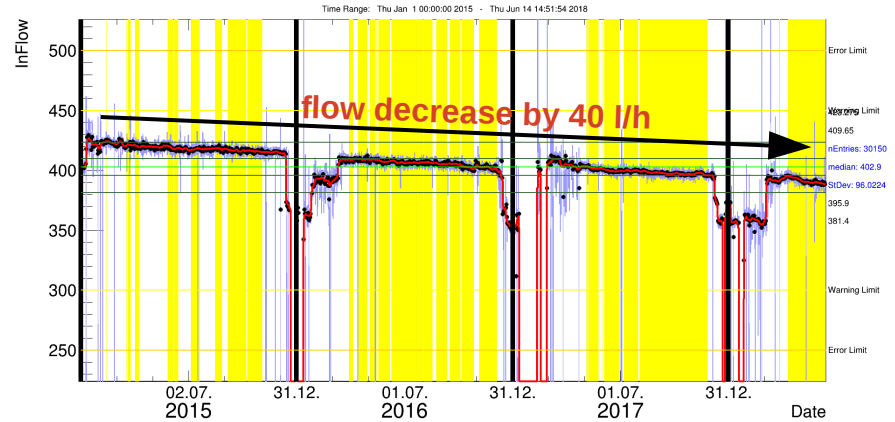
GasLoss

Rack 64: Channel 13



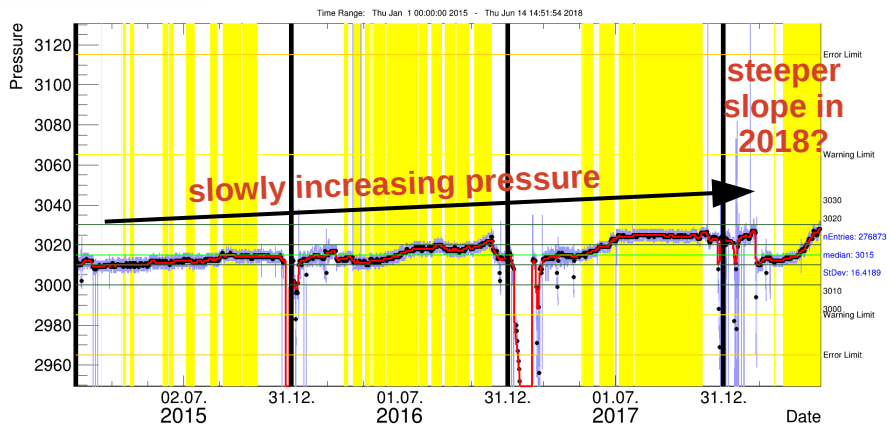
Input Flow

Rack 64: Channel 13



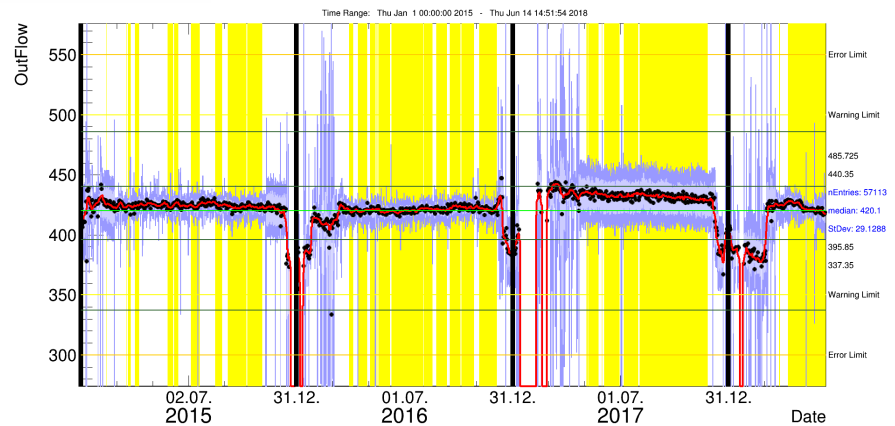
Pressure

Rack 64: Channel 13



Output Flow

Rack 64: Channel 13



- similar decrease in input flow as in channel 9
- slow increase of pressure by 15 mbar

Summary / Questions

- There seem to be some systematic decrease visible in the input flow
 - However some channels don't show that
 - Is that change real?
- What's the nature of the issue seen in channel 64/09?
 - partially blockage of a pipe?
 - The flow impedances are very small; could be partially blocked by dirt
 - Is the pressure sensor ,healthy'?
- Next steps
 - Measuring the flow through individual chambers next week
 - Looking at other racks