CLAIMS

1 . ~~A measurement module (100, 100', 200, 220, 300, 400) for measuring the differential pressure between a first and a second connection point (101a, 102a) arranged in a transport line (206) for a fluid, the measurement module (100, 100', 200, 220, 300, 400) comprises:~~

~~a first connection line (101) for being connected to the first connection point (101a), and a second connection line (102) for being connected to the second connection point (102a);~~

~~a differential pressure sensor (110) arranged in fluid communication with said first and second connection line (101, 102);~~

~~a valve (120, 320, 420) arranged in fluid communication with said first and second connection line (101, 102), said valve (120, 320, 420) having an open state and a closed state, wherein said valve (120, 320, 420) in said open state fluidly connects said first and second connection line (101, 102) via said valve (120, 320, 420), wherein said valve (120, 320, 420) in said closed state prevents fluid flow between said first and second connection line (101, 102) via said valve (120, 320, 420); and~~

~~wherein said first connection line (101) is adapted to be connected to the first connection point (101a) and is configured to extend from said first connection point (101a) to said valve (120, 320, 420), and said second connection line (102) is adapted to be connected to the second connection point (102a) and is configured to extend from said second connection point (102a) to said valve (120, 320, 420),~~

~~wherein, compared to said valve (120, 320, 420), said differential pressure sensor (110) is arranged closer to the first and the second connection point (101a, 102a).~~ A measurement

module for measuring the differential pressure between a first and a second connection point arranged in a transport line for a fluid, the measurement module comprises:

a first connection line for being connected to the first connection point, and a second connection line for being connected to the second connection point;

a differential pressure sensor arranged in fluid communication with said first and second connection lines;

a valve arranged in fluid communication with said first and second connection lines, said valve having an open state and a closed state, wherein said valve in said open state fluidly connects said first and second connection lines via said valve, wherein said valve in said closed state prevents fluid flow between said first and second connection lines via said valve,

wherein said first connection line is adapted to be connected to the first connection point and is configured to extend from said first connection point to said valve, and said second connection line is adapted to be connected to the second connection point and is configured to extend from said second connection point to said valve, and

wherein, compared to said valve, said differential pressure sensor is arranged closer to the first and the second connection points;

an actuator for actuating said valve into said open state for enabling fluid to be flushed through the measurement module; and

means for calculating a flushing time based on a differential pressure measured by the differential pressure sensor.

2. ~~A measurement module (100, 100', 200, 220, 300) according to claim 1, wherein said valve (120, 320) comprises biasing means (321, 323) for biasing said valve (120, 320)~~

~~towards said closed state.~~ A measurement module according to claim 1, wherein said valve comprises biasing means for biasing said valve towards said closed state.

3. ~~A measurement module (300) according to claim 2, wherein said biasing means are formed by at least one resilient member (321, 323) connected to at least one of a valve plug (324) or a valve seat (322), wherein said at least one of a valve plug (324) or a valve seat (322) is arranged in a connecting chamber (330) between said first and second connection line (101, 102), and said at least one of a valve plug (324) or a valve seat (322) is configured to, in said closed state, prevent a fluid flow between said first and second connection line (101, 102) and in said open state enable a fluid flow between said first and said second connection line (101, 102).~~ A measurement module according to claim 2, wherein said biasing means are formed by at least one resilient member connected to at least one of a valve plug or a valve seat, wherein said at least one of a valve plug or a valve seat is arranged in a connecting chamber between said first and second connection lines, and said at least one of a valve plug or a valve seat is configured to, in said closed state, prevent a fluid flow between said first and second connection lines and in said open state enable a fluid flow between said first and said second connection lines.

4. ~~A measurement module (300) according to claim 3, wherein said valve (120, 320) is a safety valve, wherein said at least one resilient member (321, 323) is configured to set said open state by allowing said valve plug (324) or valve seat (322) to move within said connecting chamber (330) if a pressure difference between said first and second connection line (101, 102) reaches a differential pressure threshold to equalize the pressure between said first and second connection line (101, 102).~~ A measurement module according to claim

3, wherein said valve is a safety valve, wherein said at least one resilient member is configured to set said open state by allowing said valve plug or valve seat to move within said connecting chamber if a pressure difference between said first and second connection lines reaches a differential pressure threshold to equalize the pressure between said first and second connection lines.

5. ~~A measurement module (300) according to claim 4, wherein said valve (320) comprises a first resilient member (321) connected to a valve seat (322) and a second resilient member (323) connected to a valve plug (324), wherein said first resilient member (321) and said valve seat (322) are arranged on a first side (326) of said connecting chamber (330) towards said first connection line (101), and wherein said second resilient member (323) and said valve plug (324) are arranged on a second side (327) of said connecting chamber (330) towards said second connection line (102), and wherein said valve seat (322) and said valve plug (324) are in contact in said closed state.~~ A measurement module according to claim 4, wherein said valve comprises a first resilient member connected to a valve seat and a second resilient member connected to a valve plug, wherein said first resilient member and said valve seat are arranged on a first side of said connecting chamber towards said first connection line, and wherein said second resilient member and said valve plug are arranged on a second side of said connecting chamber towards said second connection line, and wherein said valve seat and said valve plug are in contact in said closed state.

6. ~~A measurement module (100, 100', 200, 220, 300) according to any one of claims 1 - 5, further comprising an actuator (121, 440) for actuating said valve (120, 320, 420) into said open state for enabling fluid to be flushed through the measurement module.~~

~~7. A measurement module (100, 100', 200, 220, 300) according to claim 6, wherein said actuator (121, 440) is a calibration actuator (121, 440) for actuating said valve (120, 320, 420) into said open state for enabling a zero- point calibration of said differential pressure sensor (110).~~ A measurement module according to claim 1, wherein said actuator is a calibration actuator for actuating said valve into said open state for enabling a zero-point calibration of said differential pressure sensor.

~~8. A measurement module (300) according to claim 7 when dependent on claim 5, wherein said calibration actuator (121) is arranged to move one of said first and second valve plug (324) or valve seat (322) when actuating said valve (320).~~

7. A measurement module according to claim 6, wherein said calibration actuator is arranged to move one of said first and second valve plug or valve seat when actuating said valve.

~~9. A measurement module (300) according to claim 7 or 8, wherein said calibration actuator is a manual calibration actuator or wherein said calibration actuator is a powered actuator.~~

8. A measurement module according to claim 6, wherein said calibration actuator is a manual calibration actuator or wherein said calibration actuator is a powered actuator.

~~10. A measurement module (400) according to claim 7, wherein said calibration actuator comprises a powered actuator (440), and the measurement module (400) further comprises a control unit (460) connected to said differential pressure sensor (110) and to said powered actuator (440) for setting said open state if a pressure difference between said first and second connection line (101, 102) reaches a differential pressure threshold to equalize the pressure between said first and second connection line (101, 102).~~

9. A measurement module according to claim 6, wherein said calibration actuator comprises a powered actuator, and the measurement module further comprises a control unit connected to said differential pressure sensor and to said powered actuator for setting said open state if a pressure difference between said first and second connection lines reaches a differential pressure threshold to equalize the pressure between said first and second connection lines.

~~11. A measurement module (400) according to claim 10, wherein said control unit (460) is configured to control said powered actuator (440) to set said valve (420) in said open state while no measurements are performed by said differential pressure sensor (110), and wherein said control unit (460) is configured to set said valve (420) in said closed state prior to or while measurements are performed by said differential pressure sensor (110).~~

10. A measurement module according to claim 9, wherein said control unit is configured to control said powered actuator to set said valve in said open state while no measurements are performed by said differential pressure sensor, and wherein said control unit is configured to set said valve in said closed state prior to or while measurements are performed by said differential pressure sensor.

~~12. A measurement module (100, 100', 200, 220, 300, 400) according to any one of the preceding claims, wherein said differential pressure sensor (110) is arranged between said first and second connection line (101, 102).~~

11. A measurement module according to claim 1, wherein said differential pressure sensor is arranged between said first and second connection lines.

~~13. A measurement module (100, 100', 200, 220, 300, 400) according to any one of the preceding claims, further comprising a power supply and a non-transitory memory, wherein said non-transitory memory is connected to said power supply and said differential pressure sensor for storing measurement values from said differential pressure sensor.~~

12. A measurement module according to claim 1, further comprising a power supply and a non-transitory memory, wherein said non-transitory memory is connected to said power supply and said differential pressure sensor for storing measurement values from said differential pressure sensor.

~~14. A measurement module (100, 100', 200, 220, 300, 400) according to any one of claims 1-12, further comprising a power supply and a wired or wireless transceiver for transmitting measurement values from said differential pressure sensor.~~

13. A measurement module according to claim 1, further comprising a power supply and a wired or wireless transceiver for transmitting measurement values from said differential pressure sensor.

~~15. A measurement module (100, 100', 200, 220, 300, 400) according to claim 6 or any one of claims 7-14 when dependent on claim 6, wherein the measurement module~~

~~comprises means to calculate a flushing time based on a differential pressure measured by the differential pressure sensor (110).~~

~~16. A measurement module (100, 100', 200, 220, 300, 400) according to any one of claims 1-15, wherein said valve is a safety valve.~~

14. A measurement module according to claim 1, wherein said valve is a safety valve.

15. A measurement system comprising a measurement module according to claim 1, and a data collection unit for connecting to the measurement module and performing a differential pressure measurement using the measurement module.

~~17. A measurement system comprising a measurement module (100, 100', 200, 220, 300, 400) according to any one of claims 1-16, and a data collection unit (206, 208) for connecting to the measurement module and performing a differential pressure measurement using the measurement module (100, 100', 200, 220, 300, 400).~~

16. A measurement module for measuring the differential pressure between a first and a second connection point arranged in a transport line for a fluid, the measurement module comprises:

a first connection line for being connected to the first connection point, and a second connection line for being connected to the second connection point;

a differential pressure sensor arranged in fluid communication with said first and second connection lines;

a valve arranged in fluid communication with said first and second connection lines, said valve having an open state and a closed state, wherein said valve in said open state

fluidly connects said first and second connection lines via said valve, wherein said valve in said closed state prevents fluid flow between said first and second connection lines via said valve,

wherein said first connection line is adapted to be connected to the first connection point and is configured to extend from said first connection point to said valve, and said second connection line is adapted to be connected to the second connection point and is configured to extend from said second connection point to said valve, and

wherein, compared to said valve, said differential pressure sensor is arranged closer to the first and the second connection points,

wherein said valve comprises biasing means for biasing said valve towards said closed state,

wherein said biasing means are formed by at least one resilient member connected to at least one of a valve plug or a valve seat, wherein said at least one of a valve plug or a valve seat is arranged in a connecting chamber between said first and second connection lines, and said at least one of a valve plug or a valve seat is configured to, in said closed state, prevent a fluid flow between said first and second connection lines and in said open state enable a fluid flow between said first and said second connection lines,

wherein said valve is a safety valve, wherein said at least one resilient member is configured to set said open state by allowing said valve plug or valve seat to move within said connecting chamber if a pressure difference between said first and second connection lines reaches a differential pressure threshold to equalize the pressure between said first and second connection lines.

17. A measurement module according to claim 16, wherein said valve comprises a first resilient member connected to a valve seat and a second resilient member connected to a valve plug, wherein said first resilient member and said valve seat are arranged on a first side of said connecting chamber towards said first connection line, and wherein said second resilient member and said valve plug are arranged on a second side of said connecting chamber towards said second connection line, and wherein said valve seat and said valve plug are in contact in said closed state.

18. A measurement module according to claim 16, wherein said differential pressure sensor is arranged between said first and second connection lines.

19. A measurement module according to claim 16, further comprising a power supply and a non-transitory memory, wherein said non-transitory memory is connected to said power supply and said differential pressure sensor for storing measurement values from said differential pressure sensor.

20. A measurement module according to claim 16, further comprising a power supply and a wired or wireless transceiver for transmitting measurement values from said differential pressure sensor.