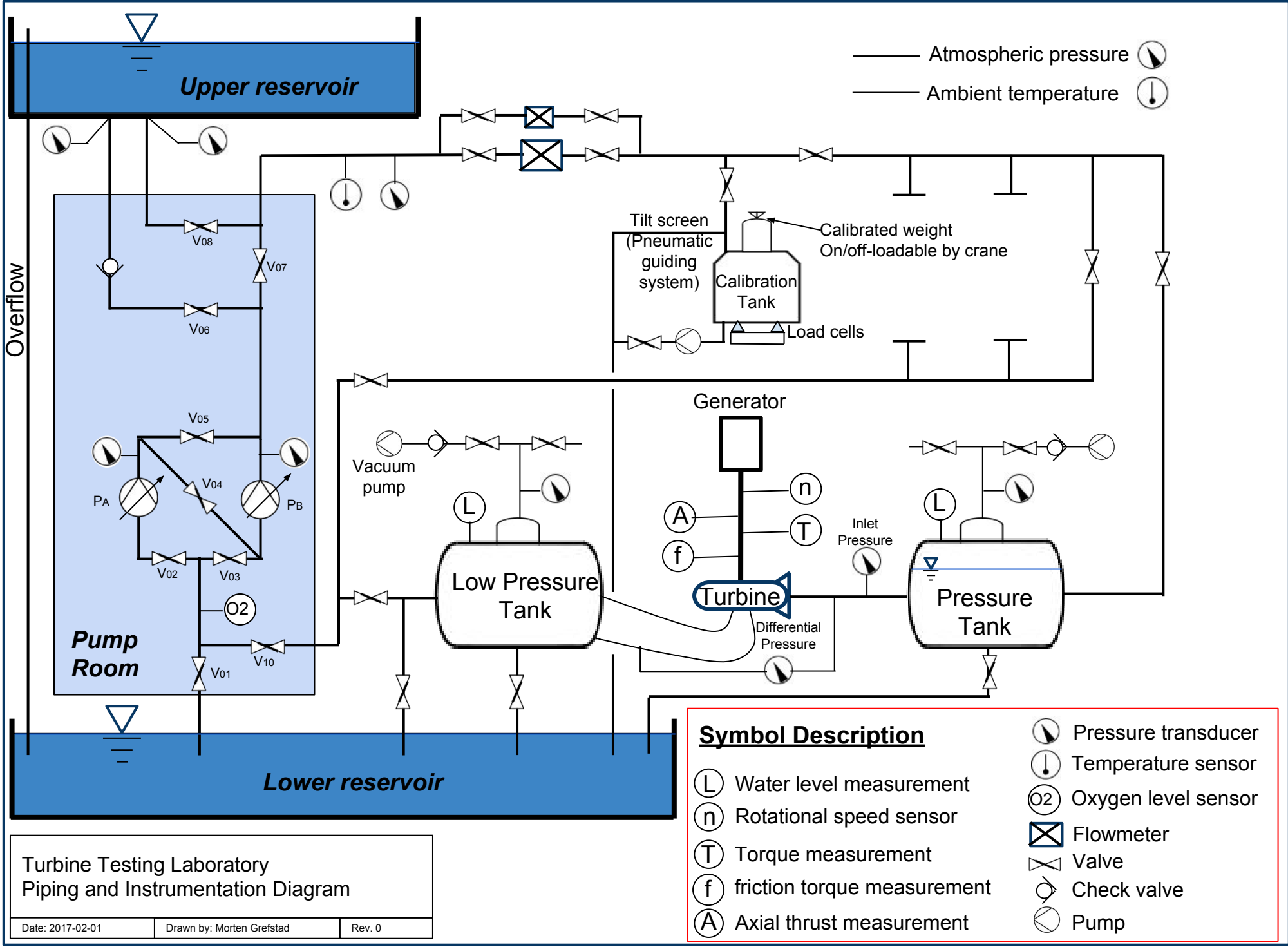
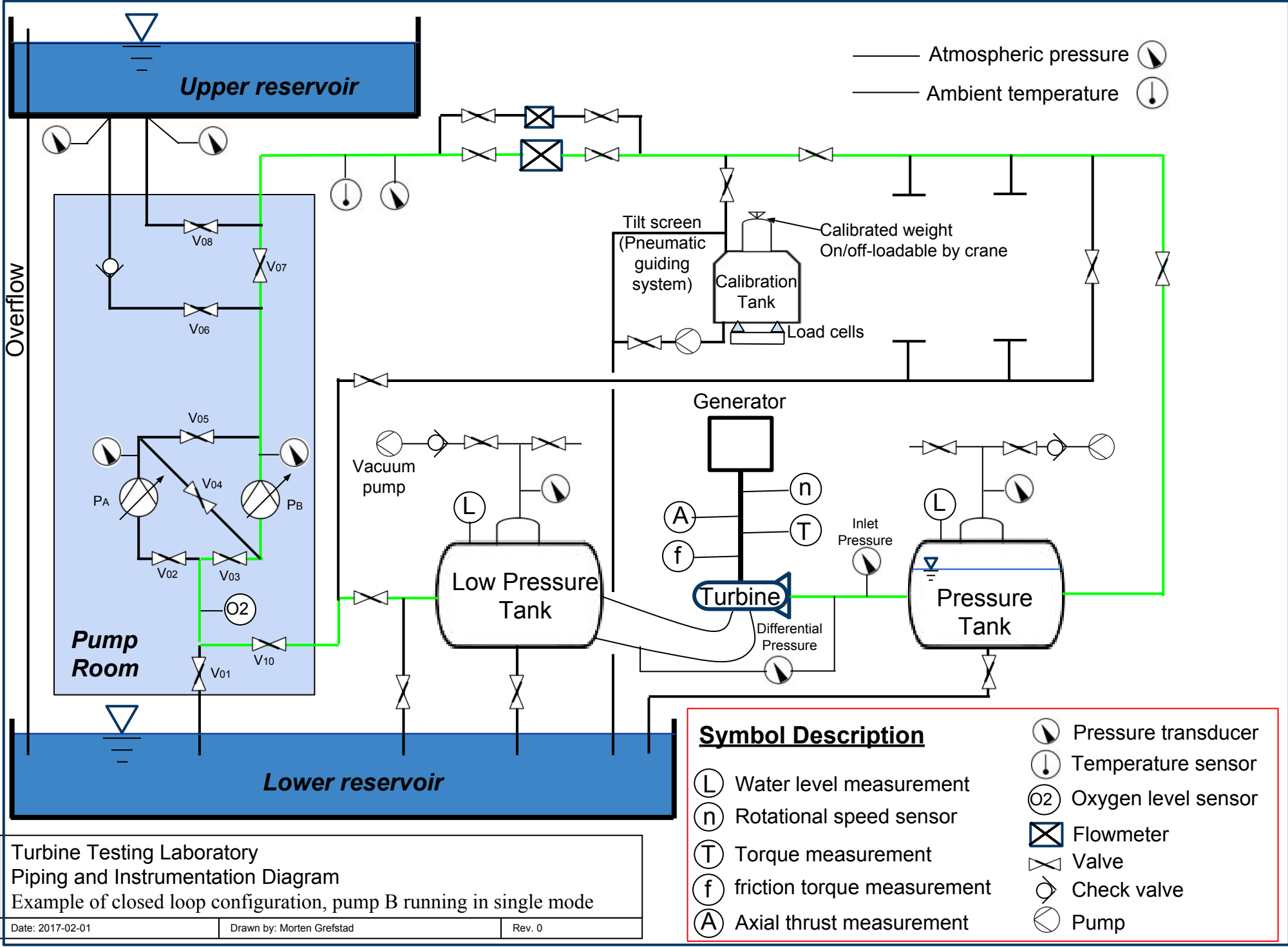
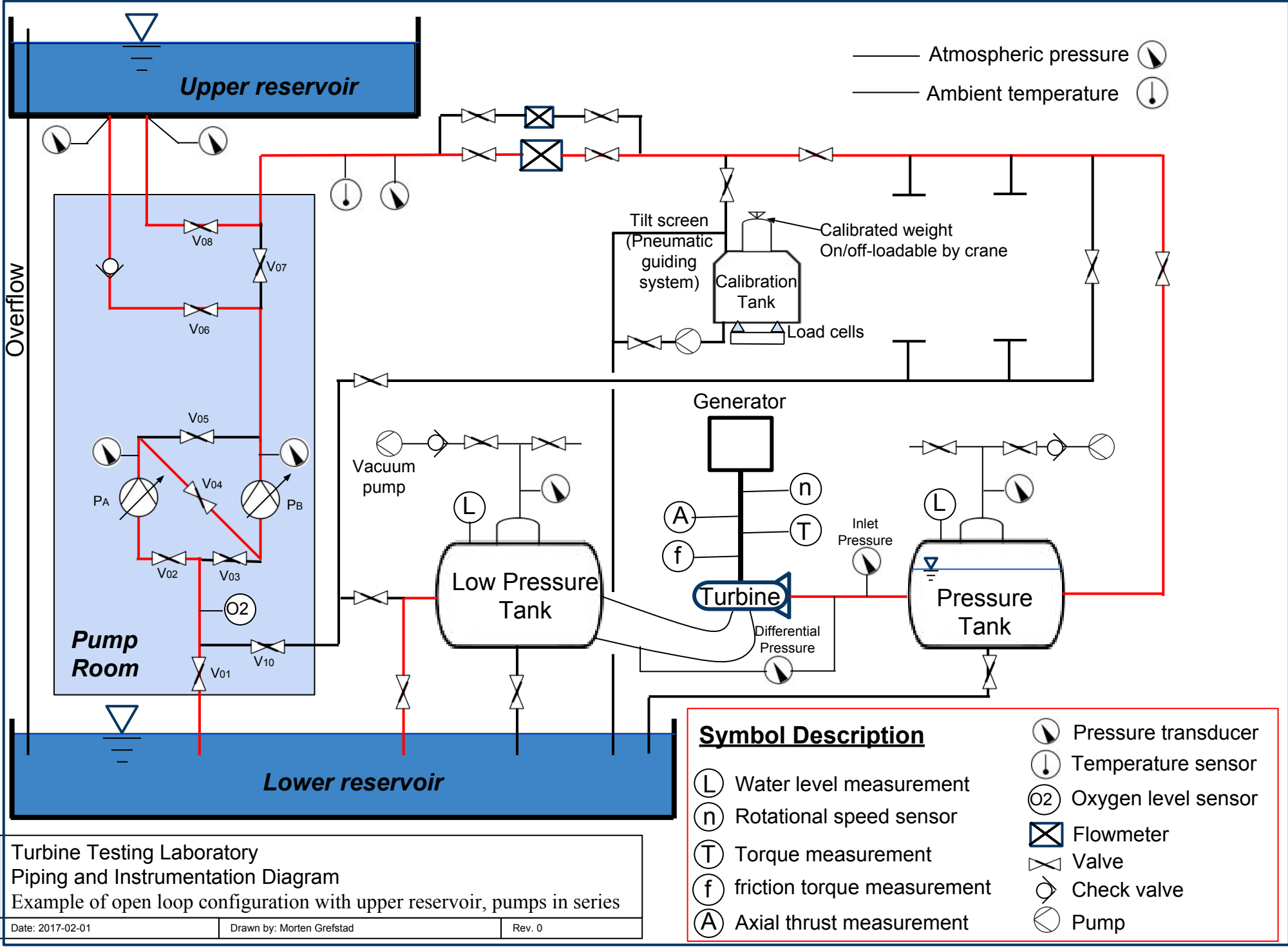

Upper reservoir
Atmospheric pressure
Ambient temperature
Overflow
V08
V07
V06
Tilt screen
(Pneumatic
guiding
system)
Calibration
Tank
Calibrated weight
On/off-loadable by crane
Load cells
Generator
V05
V04
PA
PB
V02
V03
O2
Pump
Room
V01
V10
Vacuum
pump
L
Low Pressure
Tank
n
A
T
f
Turbine
Inlet
Pressure
Differential
Pressure
L
Pressure
Tank
Lower reservoir
Symbol Description
L Water level measurement
n Rotational speed sensor
T Torque measurement
f friction torque measurement
A Axial thrust measurement
Pressure transducer
Temperature sensor
O2 Oxygen level sensor
Flowmeter
Valve
Check valve
Pump
Turbine Testing Laboratory
Piping and Instrumentation Diagram
Date: 2017-02-01
Drawn by: Morten Grefstad
Rev. 0



Turbine Testing Laboratory
Piping and Instrumentation Diagram
Example of closed loop configuration, pump B running in single mode

Date: 2017-02-01	Drawn by: Morten Grefstad	Rev. 0


Upper reservoir
Atmospheric pressure
Ambient temperature
Overflow
V08
V07
V06
V05
V04
V02
V03
V01
V10
O2
PA
PB
Pump Room
Tilt screen (Pneumatic guiding system)
Calibration Tank
Calibrated weight On/off-loadable by crane
Load cells
Vacuum pump
L
Low Pressure Tank
Generator
n
T
A
f
Turbine
Differential Pressure
Inlet Pressure
Pressure Tank
Lower reservoir
Symbol Description
L Water level measurement
n Rotational speed sensor
T Torque measurement
f friction torque measurement
A Axial thrust measurement
Pressure transducer
Temperature sensor
O2 Oxygen level sensor
Flowmeter
Valve
Check valve
Pump
Turbine Testing Laboratory
Piping and Instrumentation Diagram
Example of open loop configuration with upper reservoir, pumps in series
Date: 2017-02-01
Drawn by: Morten Grefstad
Rev. 0