



# Horizontal Well Artificial Lift Project

## *Inclinable Downhole separation facility*

This facility operates with water and gas and it has been designed and constructed to test and evaluate current downhole separators. Additionally, the facility can be used to develop a standardized evaluation methodology to evaluate future separators' designs. The facility design allows to test different separator geometries such as separator diameter or length.

### Key Specifications

#### Fluids

Gas: Compressed Air

Water: Tap Water

#### Operating Conditions

Maximum Pressure: 30 psig

Temperature: Ambient

Gas Flow Rate: 0 to 50 MSCFD (Sup. Gas Velocity @ dev region – 0 to 11.75 ft/s)

Water Flow Rate: 0 to 1550 BPD (Sup. Liquid Velocity @ dev region – 0 to 1.96 ft/s)

#### Test Section

Pipe Material: Acrylic  
Casing diameter 6 in  
Shroud diameter 3 in  
Tailpipe diameter 1 in  
Developing Region: 25 ft  
Separator Length: 75 in  
Inclination Angles: 0 to 90 degree

#### Instrumentation and Flow Characteristics

##### Instrumentation

Quick Closing Valves  
Conductivity Probes  
Back Pressure Regulator  
Coriolis Mass Flow Rate  
GoPro Cameras

##### Measured Parameters

- Liquid Holdup
- Liquid Holdup
- Flow Pattern
- Slug Characteristics
- Casing pressure
- Separator Efficiency
- Flow Pattern
- Flow characteristics

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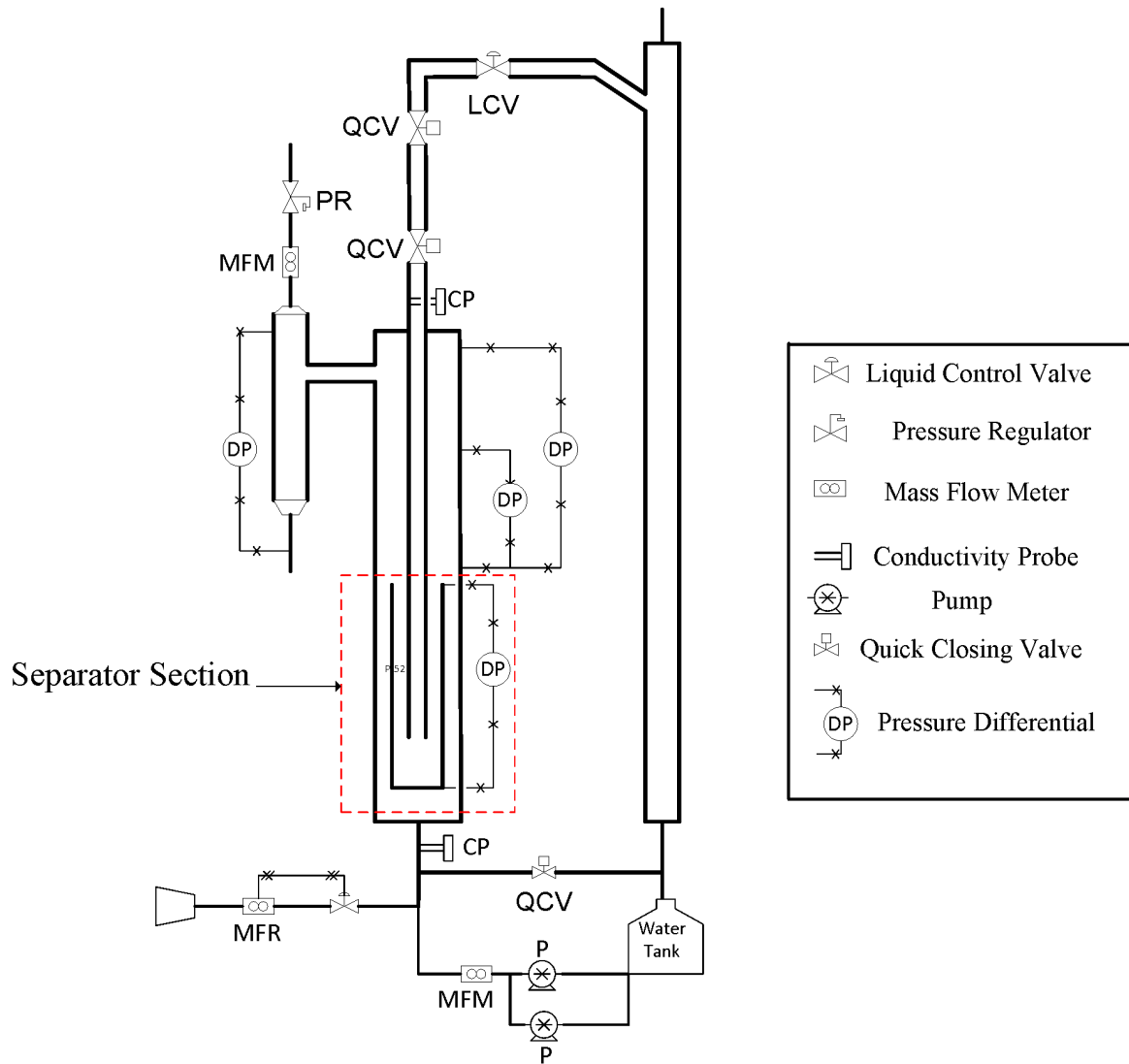


Figure 1: Schematic of Facility



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**Figure 2: Schematic of Test Section**

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