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# Surge protection for water distribution systems

Data for surge analysis and air valves recommendation

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## Project Description

| | |
|---|---|
| Project name*: | |
| Project general description | |
| City (Country) *: | |
| Date: | |
| Customer*: | |
| Existing or new installation*: | Select… |
| Type of analysis*: | Select… |
| Solution required*: | Select… |

## Pumping station data

**Pumps**

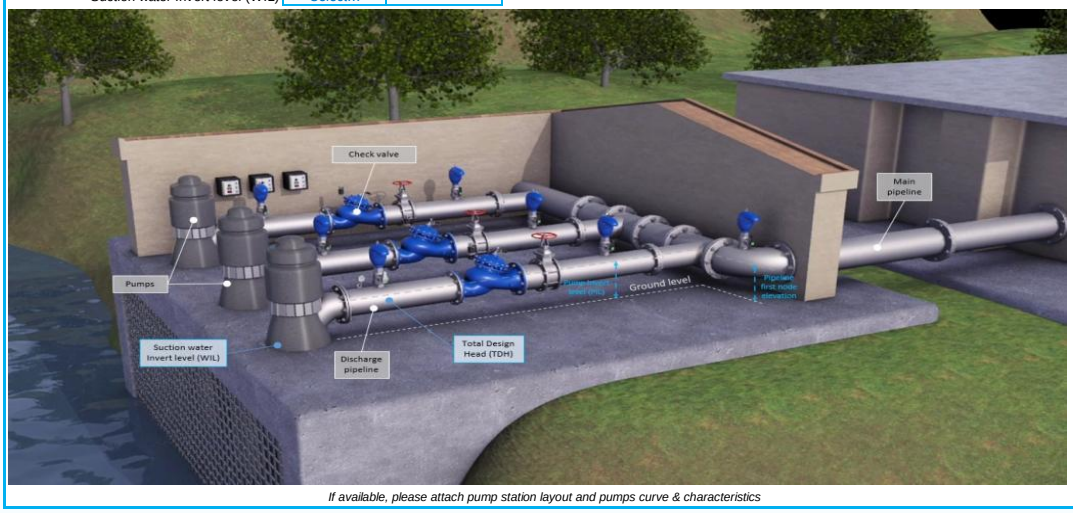
| | | | |
|---|---|---|---|
| Pumps installed * | # | | *Number of pumps installed at the pumping station* |
| Active pumps * | # | | *Maximum number of pumps working simultaneously* |
| Total flow ($Q_{max}$) * | Select… | | *Maximum flow required* |
| Total Design Head (TDH) * | Select… | | *Total head to be pumped at maximum flow required* |
| One pump flow * | Select… | | *For pumping stations with different pump type, enter relevant data on a new Excel sheet* |
| Pump speed | rpm | | |
| Pump efficiency | % | | *If available, please attach pump curve & characteristics* |

**Check valves**

| | | | |
|---|---|---|---|
| Check valve type | - | Select… | |
| Check valve size (DN) | Select… | | |
| Check valve closing time (max) | Sec | | *If known,Closing time from fully open to fully closed* |
| Discharge pipe diameter (DN) | Select… | | |

**Layout**

| | | | |
|---|---|---|---|
| Pump Invert level (PIL) | Select… | | *If available, please attach pump station layout* |
| Suction water Invert level (WIL) | Select… | | |




*If available, please attach pump station layout and pumps curve & characteristics*

## Pipeline general data

| | | |
|---|---|---|
| Material * | - | Select… |
| Internal diameter * | Select… | |
| Pipeline wall thickness | Select… | |
| Class / pressure rating * | Select… | |
| Collapse pressure | Select… | |
| Roughness (Hazen Williams Coefficient) | - | |
| Wave speed | Select… | |

## Pipeline end point data

| | | | |
|---|---|---|---|
| End point node pressure * | Select… | | *Pressure level at the end point* |
| End point node details * | - | Select… | |

## Pipeline profile graph * (enter data in "*pipeline profile*" Sheet)