**Expert 5 Cooling Tower Form**NOTE: All of the following information is required in order to carry out an Expert 5 Cooling Tower simulation.

|  |  |
| --- | --- |
| Company / Project name: |  |

 **General Questions:**

|  |  |
| --- | --- |
| Is scale currently present? |  |
| What is the frequency of cleaning? |  |
| What chemicals are currently used? |  |
| Current Cycles of Concentration? |  |

**Cooling Tower Flow Rate Details:**

|  |  |
| --- | --- |
| Estimated make up flow rate (GPM): |  |
| Estimated recirculating flow rate (GPM): |  |
| Estimated bleed flow rate (GPM): |  |
| Is bleed continuous? Yes/No |  |

**Cooling Tower Water Temperature Details (degrees F):**

|  |  |
| --- | --- |
| Make up water temperature: |  |
| Basin water temperature: |  |
| Water temperature after heat exchanger: |  |

**Water chemistry (feed water):**

|  |  |  |  |
| --- | --- | --- | --- |
| pH |       | Total Hardness (CaCO3) ppm |       |
|  Total Alkalinity (CaCO3) ppm |       | Calcium Hardness (CaCO3) ppm |       |
|  Chlorides ppm |       | TDS ppm |       |
|  Sulfates ppm |       | Silica ppm |       |

**Water chemistry (recirculating):**

|  |  |
| --- | --- |
| TDS of cooling tower basin water (ppm): |  |

*If you’re having trouble obtaining the information above please call for assistance*

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**Water Sampling and Submission**
When taking water samples please follow the instructions below:

1. Ensure that you have a clean shippable container(s) capable of holding 300ml of water per sample. Please use sealable containers that are either brand new or have previously held distilled water that have air dried. Please **do not** use containers that previously held anything other than water as the sample and subsequent test results may be affected. Please **do not** use detergents to clean bottles prior to sampling as they too may affect the test results.
2. The sampling point should be situated in a flowing section of the system, not a “dead leg” branch where water may have been sitting stagnant for some time. If drawing a sample from a flowing section of the system drain for at least 30 seconds before taking your sample.

If the only sampling point available is in a “dead leg” branch such as a drain line, be sure to run plenty of water off in order to obtain a fresh sample. It’s essential that you drain off substantially more than the capacity of the “dead leg” as eddy currents within the pipe will prevent stagnant water from draining out directly.
3. The most time sensitive water test is pH and this reading **must** be taken at the time of sampling, if you don’t have a means of doing so please let us know in advance of taking your sample so assistance can be provided.
4. You may have a local lab that you use or your customer may have lab facilities. The following 9 tests show what we require in order to carry out an analysis of the water type (again pH must be read at the time of sampling):

|  |  |
| --- | --- |
|  | **Water Test Results** |
|  Total alkalinity (CaCO3) as ppm |  |
|  Chlorides, Cl (ppm) |  |
|  Sulfate, SO4 (ppm) |  |
|  Total hardness (CaCO3) ppm |  |
|  Calcium hardness (as CaCO3) ppm |  |
|  Magnesium hardness (as CaCO3) ppm |  |
|  pH |  |
|  TDS ppm |  |
|  Conductivity |  |
|  If high levels are suspected: Iron, Fe (ppm):  |  |
|  If high levels are suspected: Silica (ppm):  |  |

1. Label the sample clearly showing the following:

Fluid Dynamics Water Sample
Date and time that the sample was taken

Customer’s name
Your name
The identity and type of system that the water sample was drawn from
The location in the system from which the sample was taken

1. Once your samples are prepared and appropriately packaged for shipping contact a company representative for instructions.