



Society of Petroleum Engineers
 Drilling Systems Automation
 Technical Section (DSATS)
 International University Competition
 2021 – 2022



Drillbotics® FAQs

Revision 2
 21 May 2022

1. Introduction

This year marks the eighth competition for the title of Drillbotics® champion. Teams will create a virtual rig (Group A) may build and operate a physical rig (Group B). Both will attempt to drill the same directional well. The Drillbotics committee wrote Guidelines for the competition, but there are inevitably some areas of confusion, which we hope to clarify here.

These FAQs are a response to questions posed by various teams throughout the year and are updated as frequently as practicable. Updates will be posted on the Drillbotics.com blog, and it is the responsibility of each team to keep up to date, as these FAQs become an amendment to the Guidelines. Teams are encouraged to enroll to receive notification of new posts on the blog page www.Drillbotics.com/blog

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This updated FAQ shows the latest revisions highlighted in **yellow**.

2. Frequently Asked Questions

§7.0 *Should the shipping costs of the rig to the competition destination be included in the budget of \$10,000?*

No.

§B.j. *Please I write to seek a clearer view on some input parameters we would be provided which will help us decide on how our models will work. We wanted to be briefed more on our well trajectory.*

Version	Date	Section	Description
2022.01	16 Dec 2021	7	Initial release
2022.02	21 May 2022	B and B.j	Targets/profile and parameters

Most especially in the case of the S profile, will the drop off rate be given which will serve as inputs to our well trajectory or our models are supposed to figure out such parameter?

Only the x/y/z coordinates will be given. Your system should automatically calculate the planned trajectory (using parameters based on your BHA design limits) and should be re-planning from survey to survey as the well is being drilled.

§B In our course of research and in our quest to determine the well bore pressure and torque and drag during flow conditions we realized the need for certain parameters and wanted to know if it will be provided for us or we see supposed to assume just any value.

The parameters are;

1. The fanning friction factor
2. The flow rate which is needed to calculate the flow velocity and other parasitic pressure losses
3. The consistency index and flow index, that is, if the fanning friction factor isn't given. These two parameters can hence be used to calculate the Reynolds number which can be used to calculate the fanning friction factor, having assumed a power law fluid in our work.

No hydraulics parameters are provided – these details should be included as part of your model design with references, calculations, and justifications for the values chosen. That being said, it is up to each individual team to make their models as complex or as simple as they would like, and their project will have the chosen complexity taken into consideration with the judging.

-End-

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