

*If we really understand the problem, the answer will  
come out of it, because the answer is not separate from  
the problem.*

# Stress Relief

**02/02\_2018**

*Different ideas/designs*

**M. Prokic/H. Puga**

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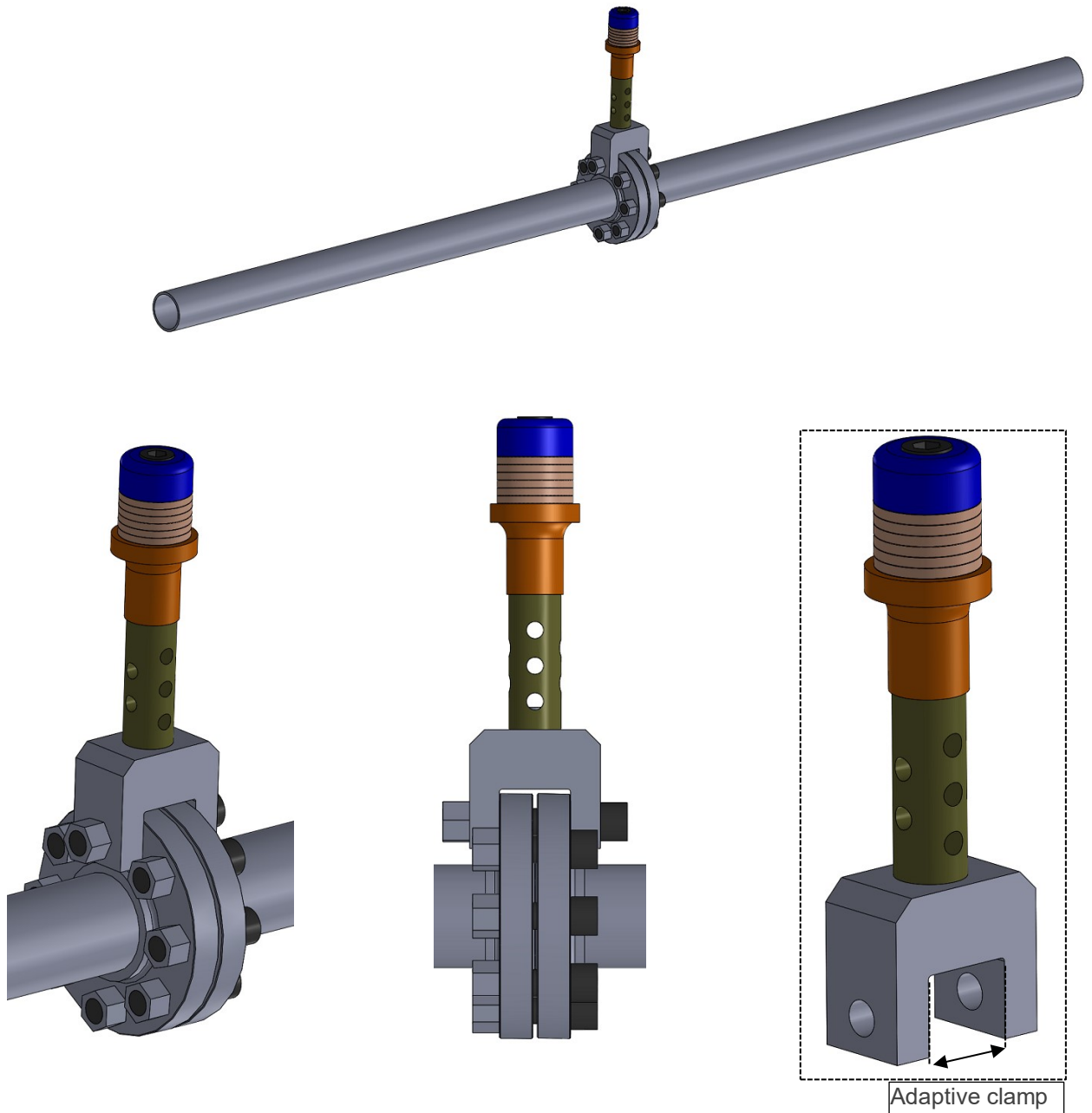
**Phone** +41-32-9314045  
**Fax** +41-32-9314079

MP Interconsulting, Le Locle,  
Switzerland

<http://www.ultrasonicmetallurgy.com/>

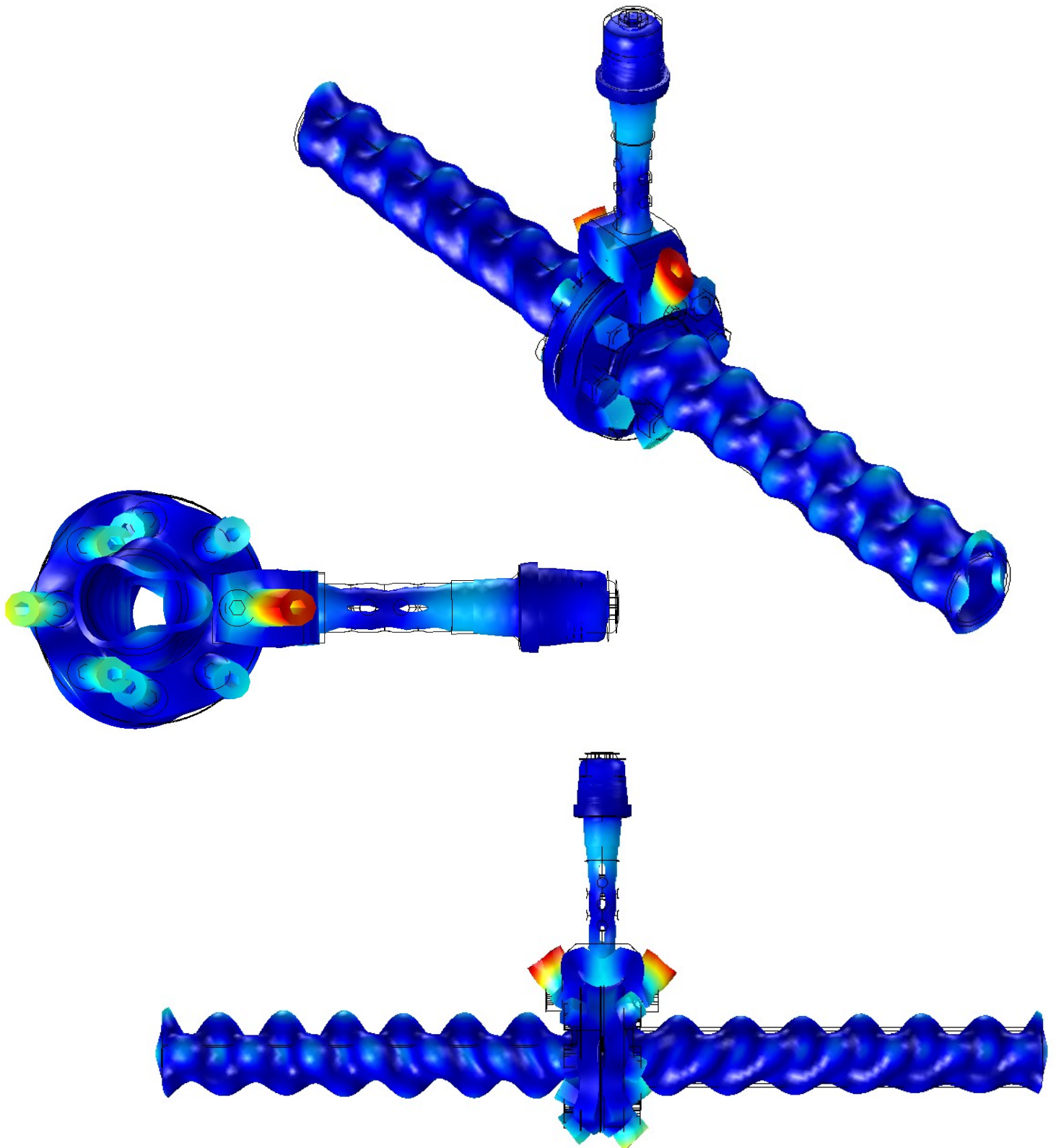
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Proposal 1

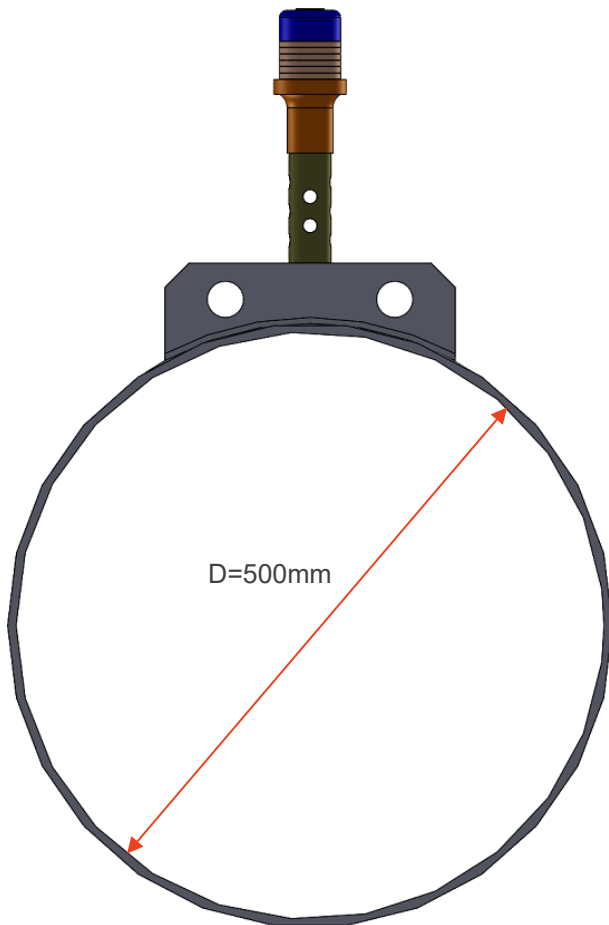
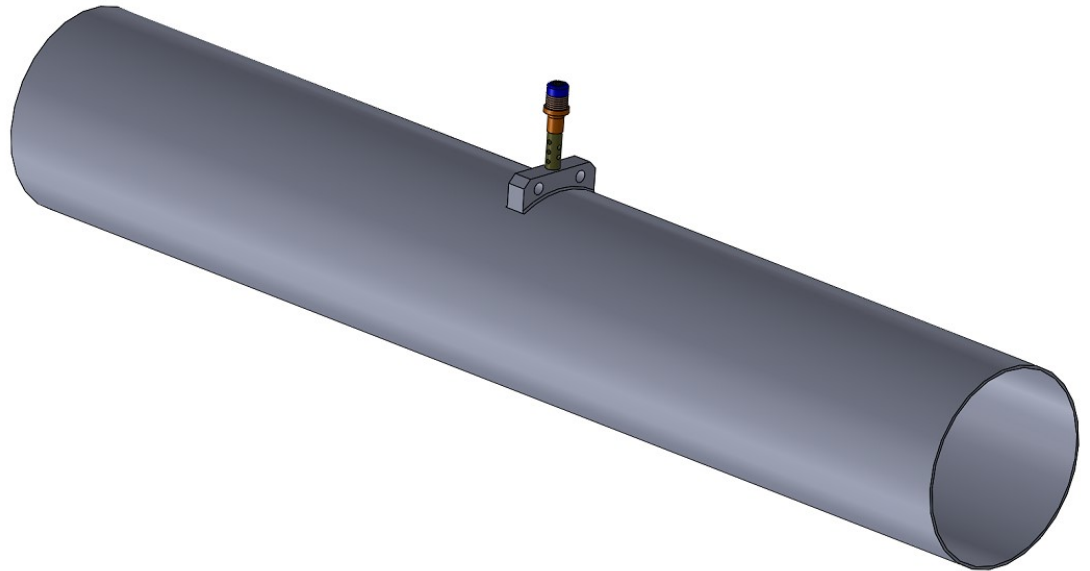


## FEA Simulation

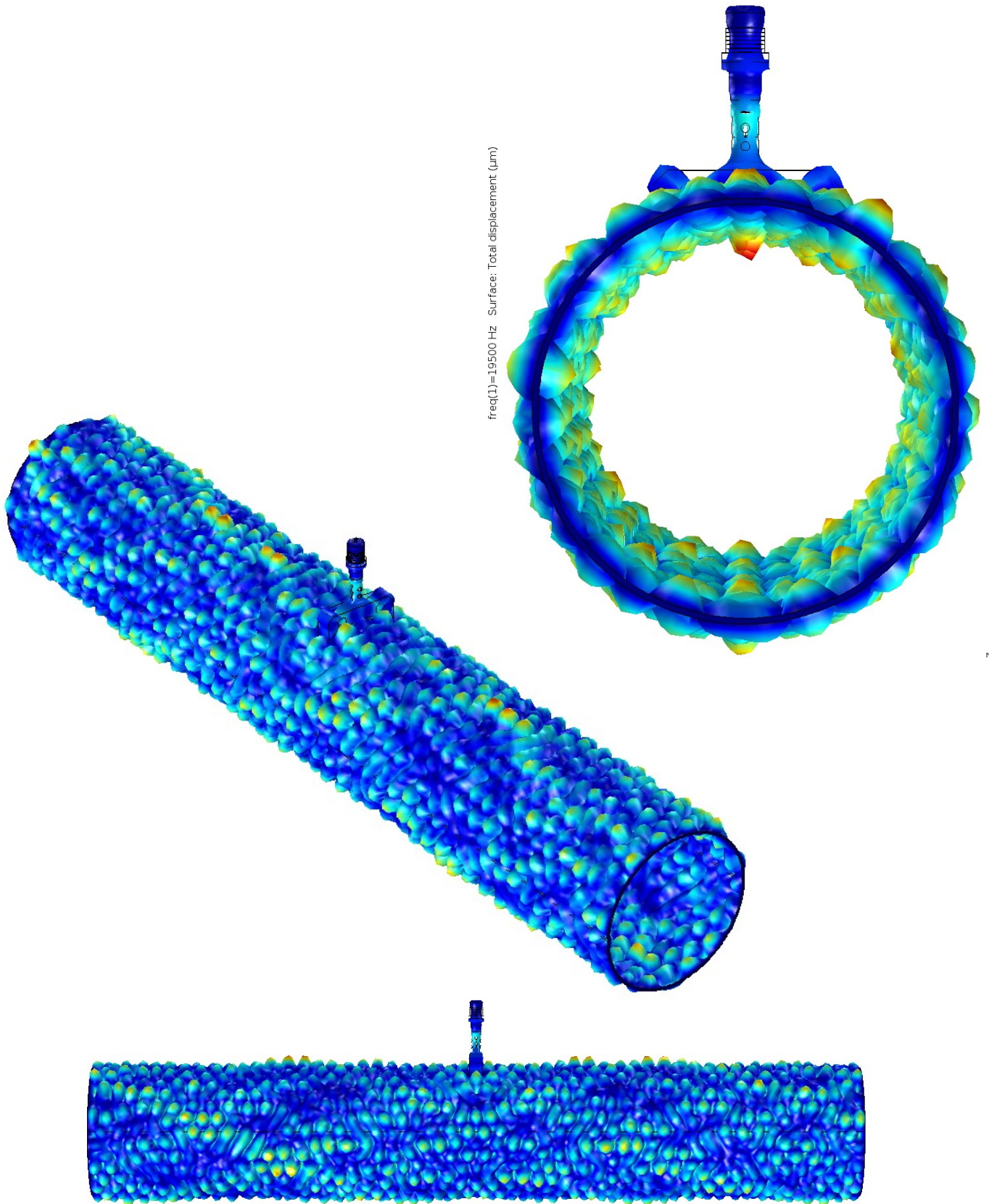
freq(1)=19250 Hz Surface: Total displacement ( $\mu\text{m}$ )



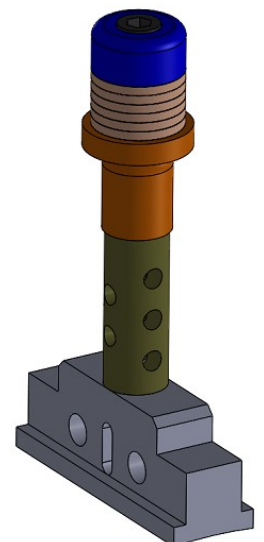
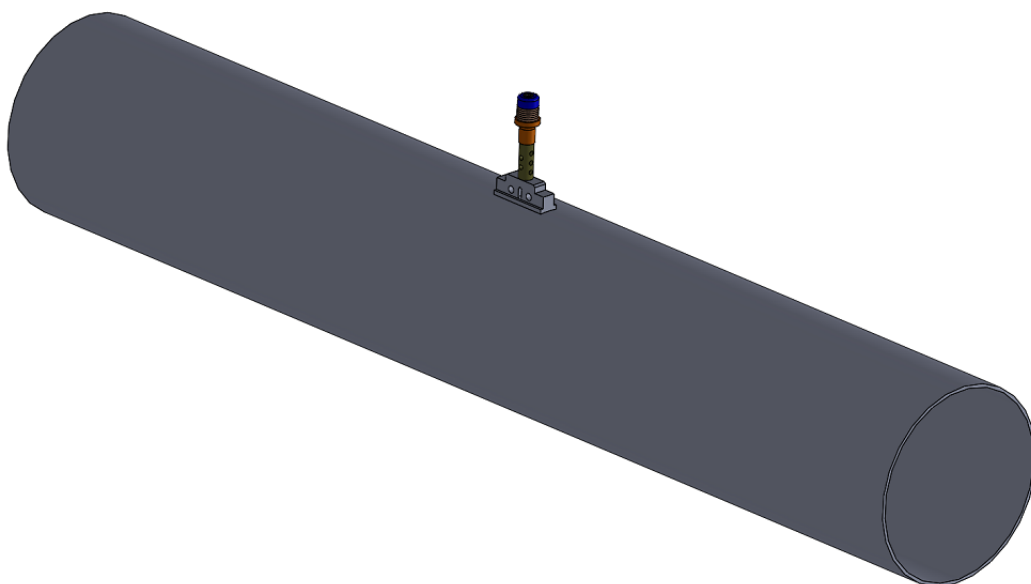
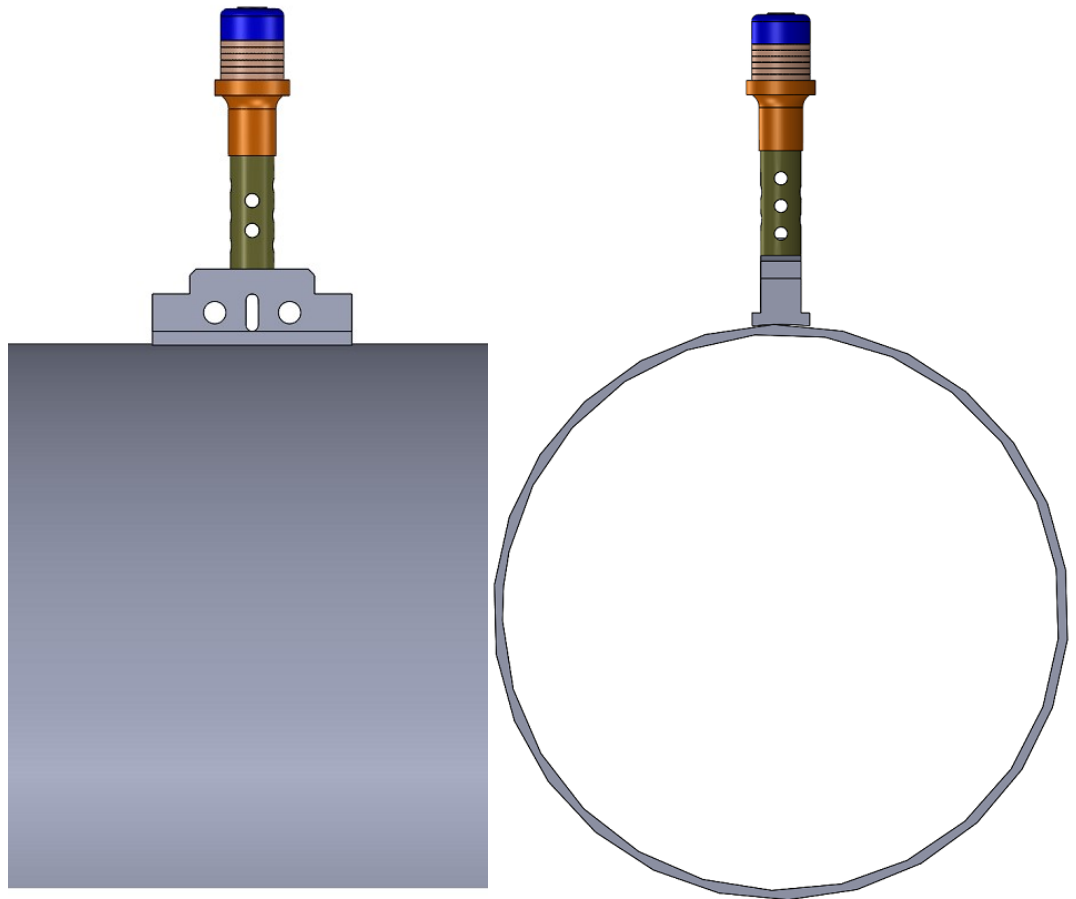
## Proposal 2



# FEA Simulation



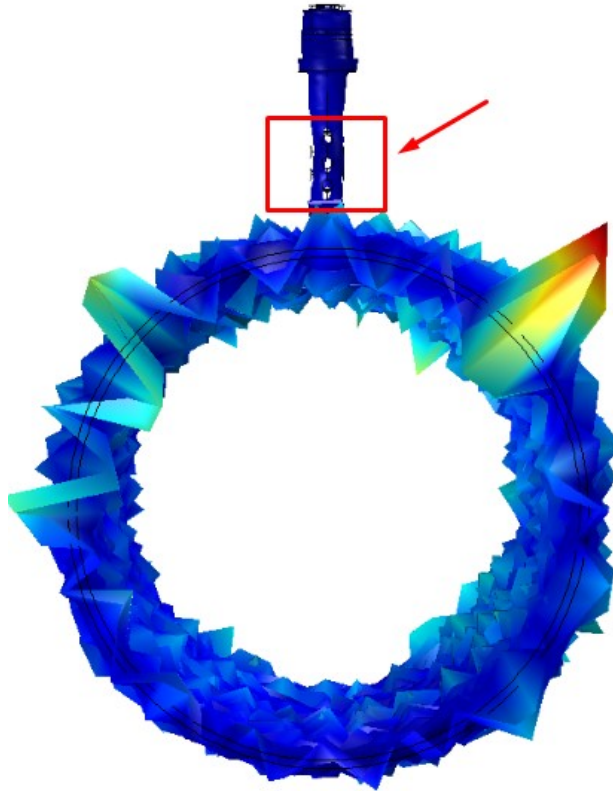
Proposal 3



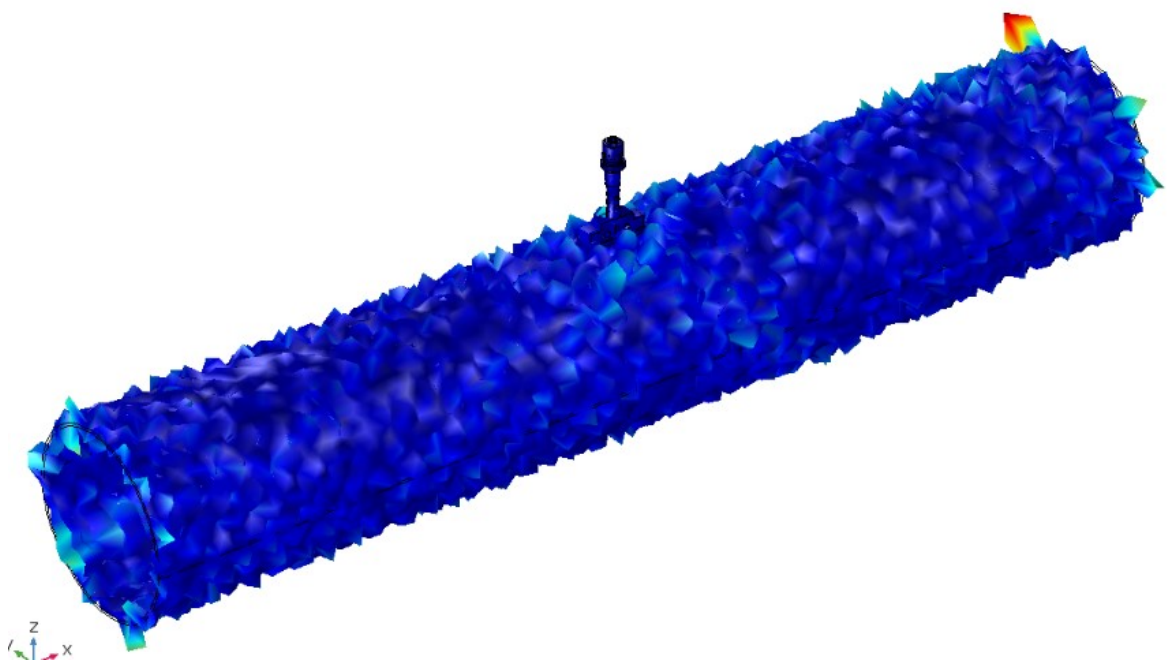


## FEA Simulation

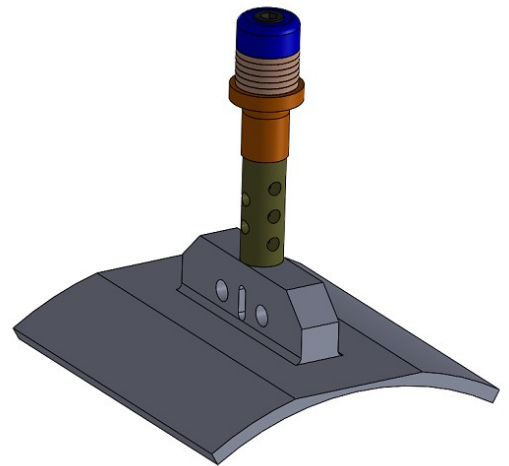
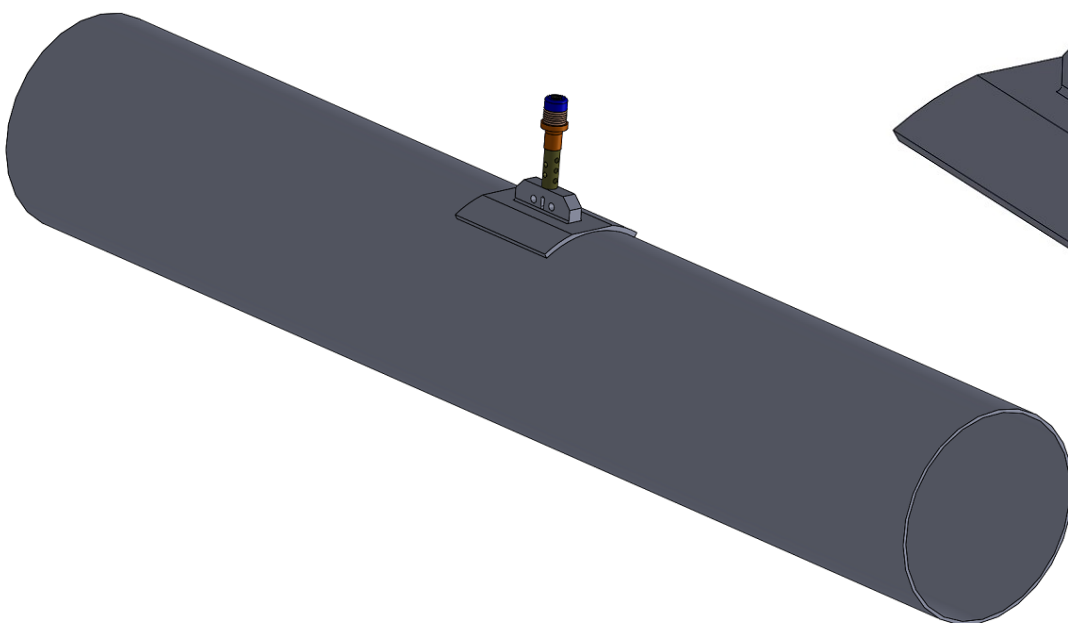
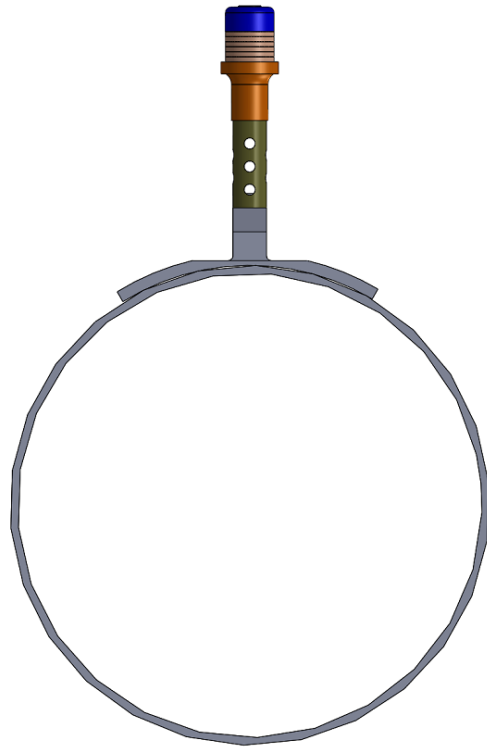
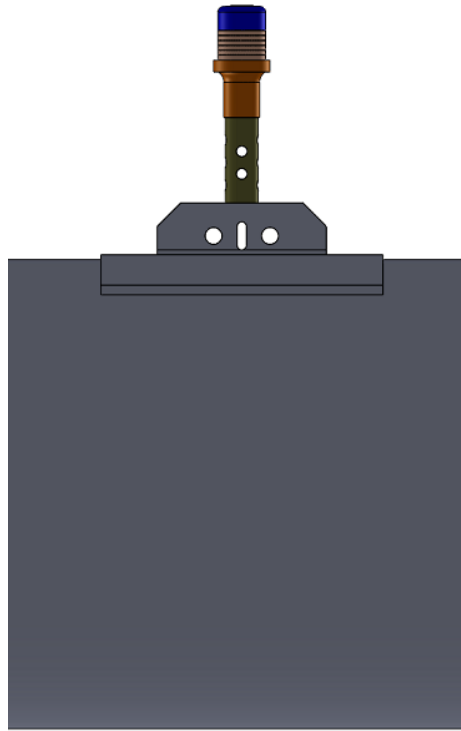
freq(1)=19977 Hz Surface: Total displacement ( $\mu\text{m}$ )



freq(1)=19977 Hz Surface: Total displacement ( $\mu\text{m}$ )



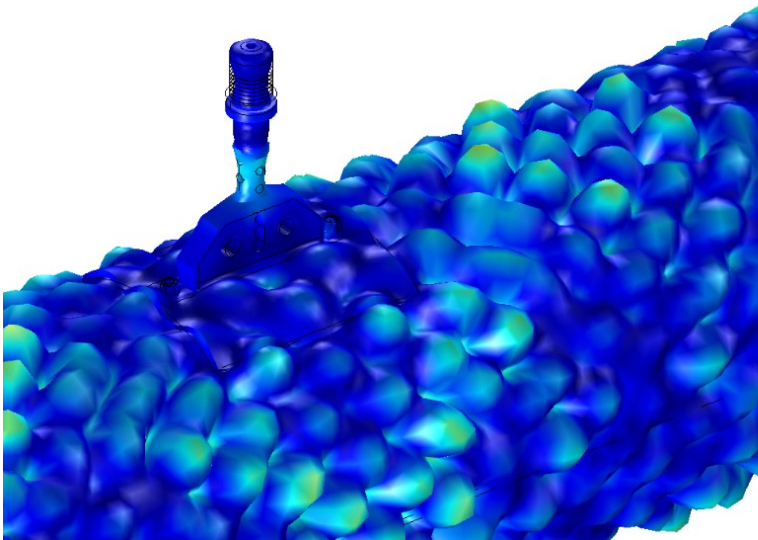
### Proposal 4





# FEA Simulation

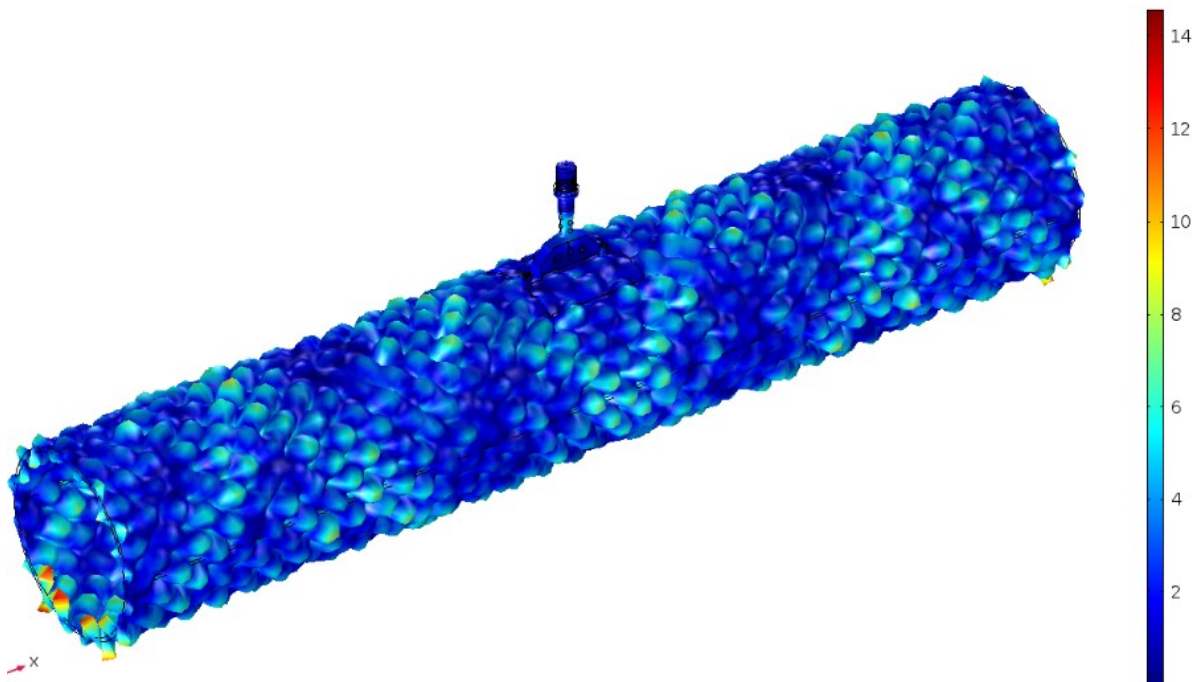
freq(1)=19315 Hz Surface: Total displacement ( $\mu\text{m}$ )



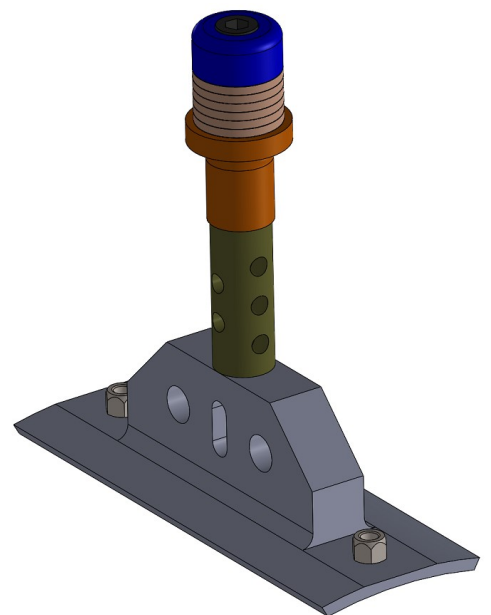
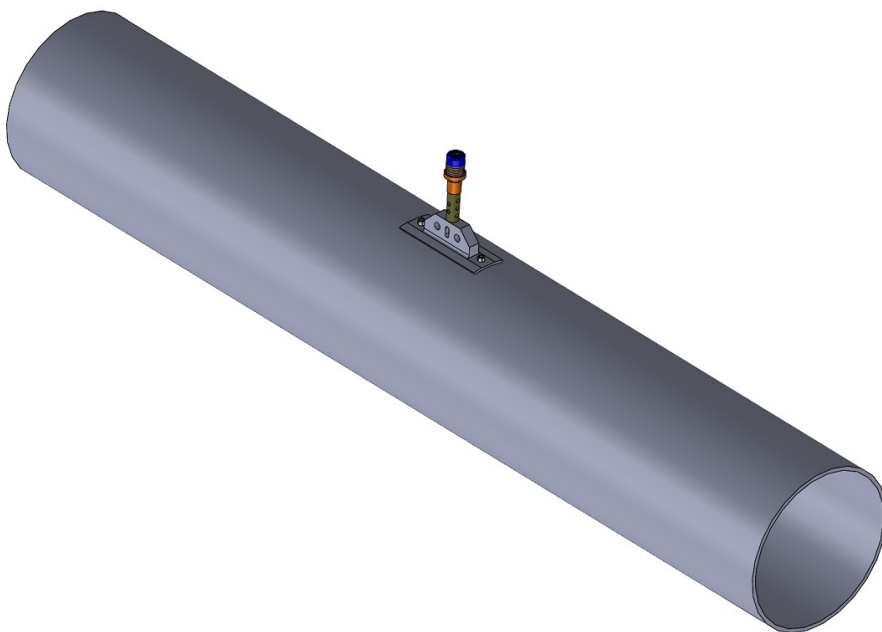
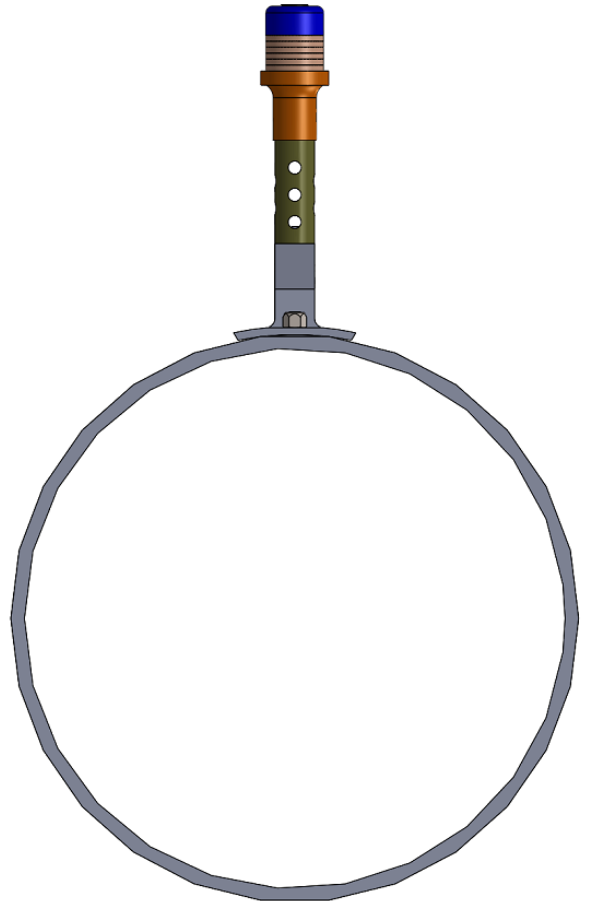
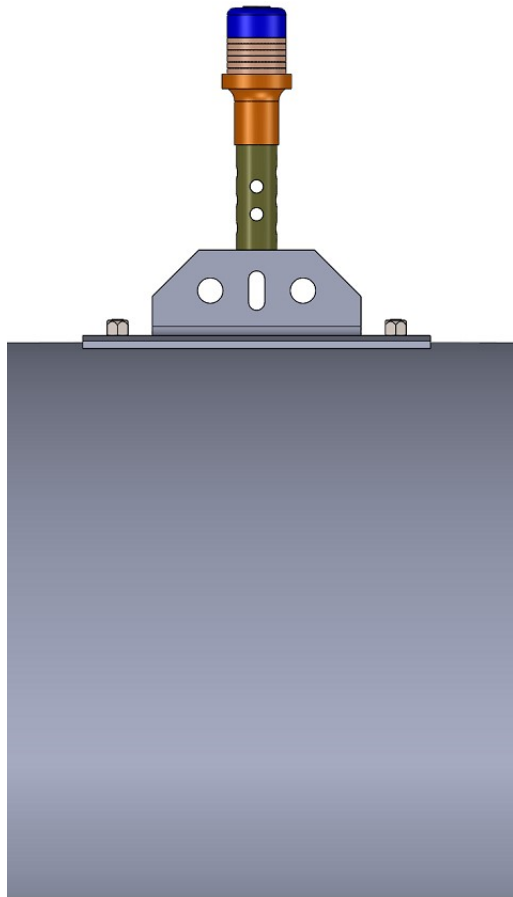
freq(1)=19315 Hz Surface: Total displacement ( $\mu\text{m}$ )

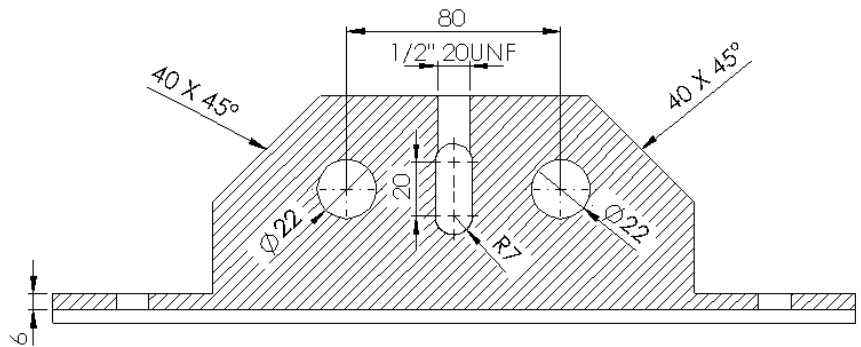
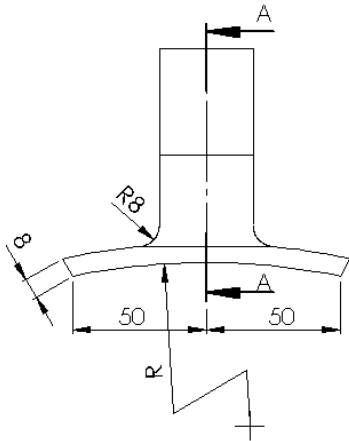
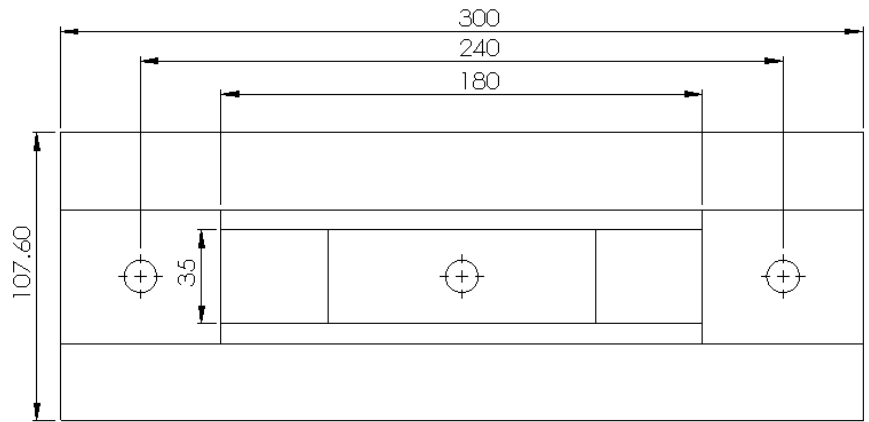


freq(1)=19315 Hz Surface: Total displacement ( $\mu\text{m}$ )

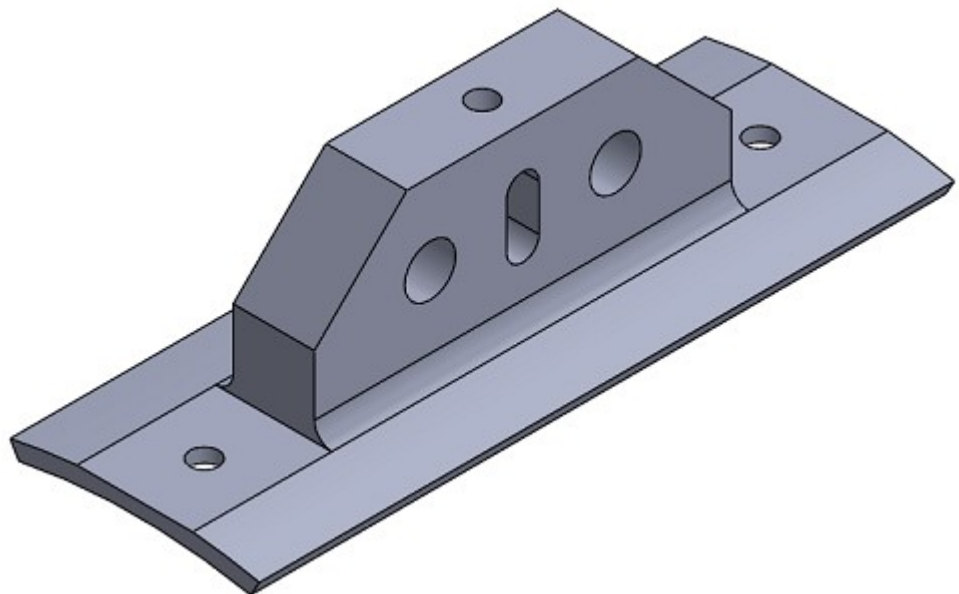


Proposal 5

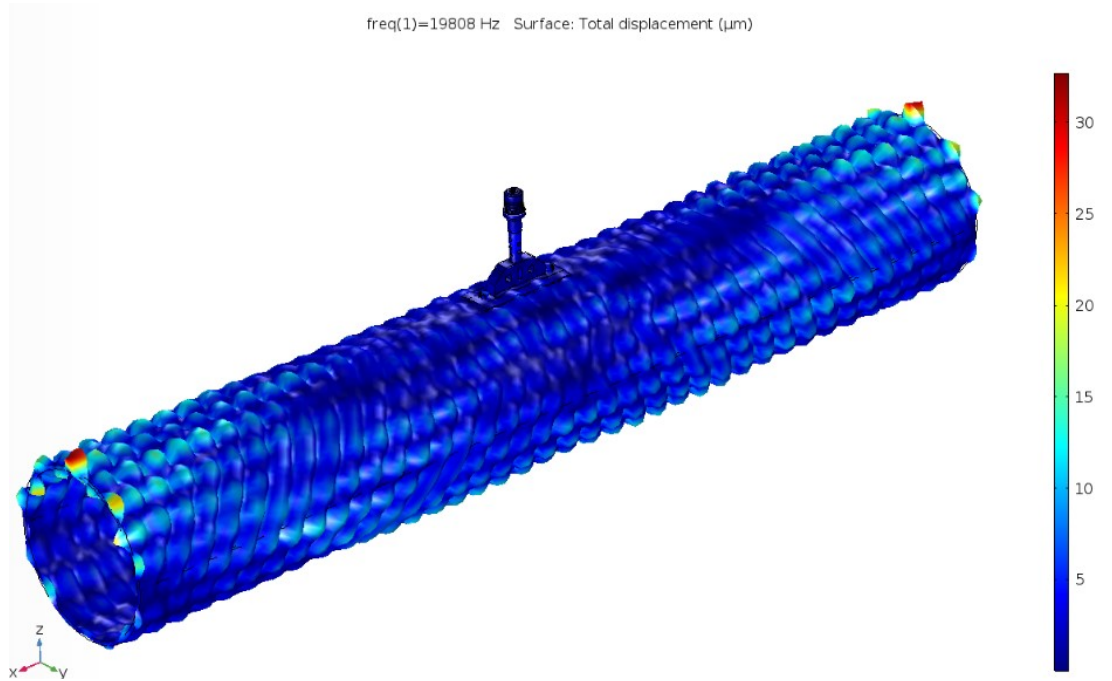




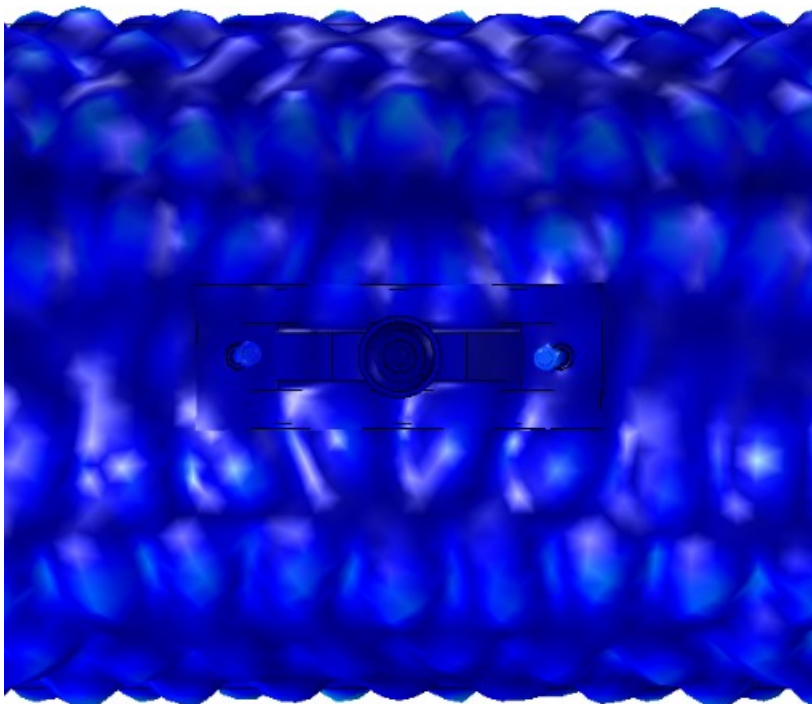
SECTION A-A  
SCALE 1 : 2



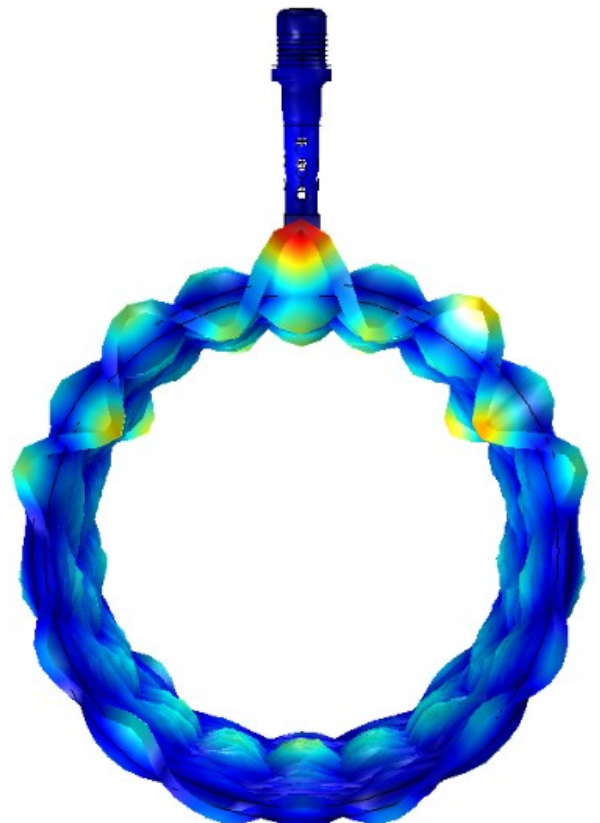
## FEA Simulation



freq(1)=19808 Hz Surface: Total displacement ( $\mu\text{m}$ )

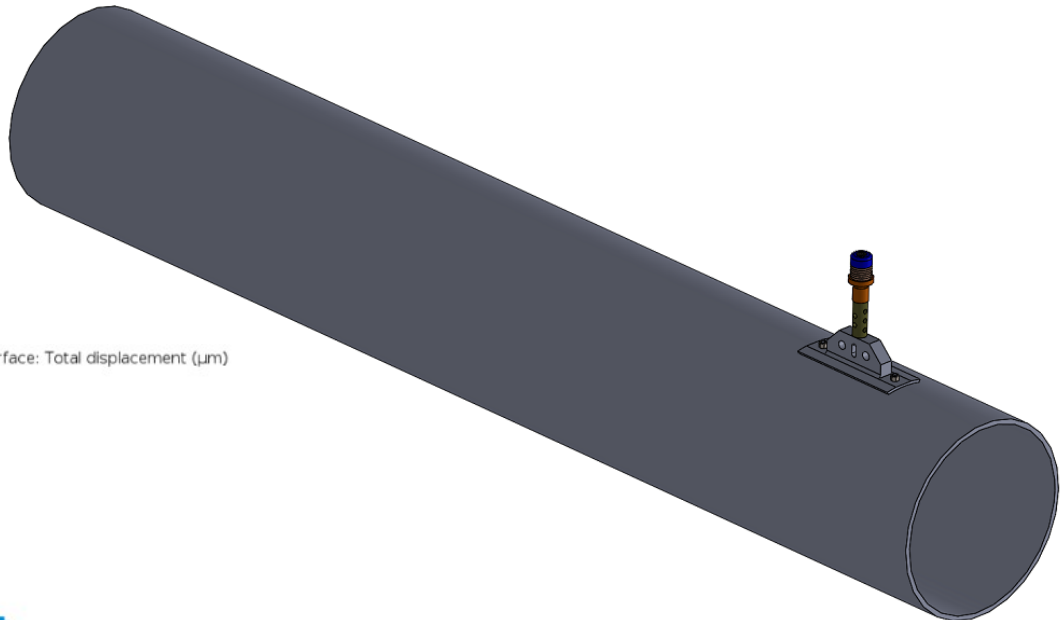


freq(1)=19808 Hz Surface: Total displacement ( $\mu\text{m}$ )





### Proposal 5.1



Eigenfrequency=20030 Hz Surface: Total displacement ( $\mu\text{m}$ )



Eigenfrequency=20030 Hz Surface: Total displacement ( $\mu\text{m}$ )

