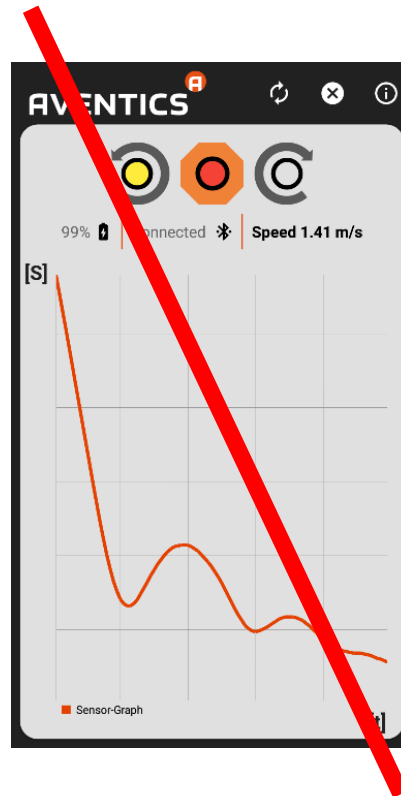
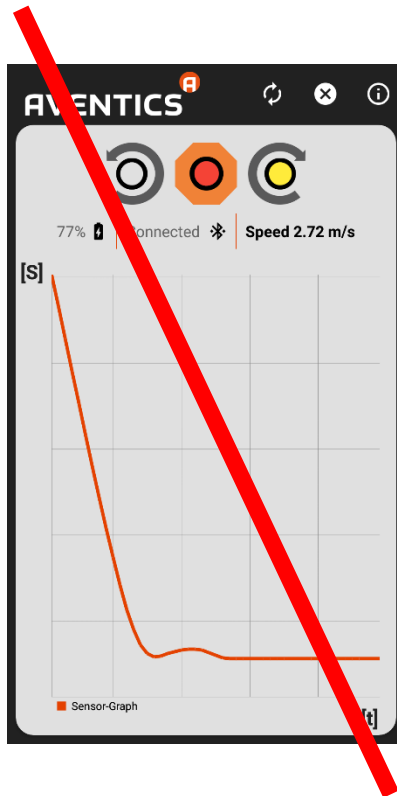
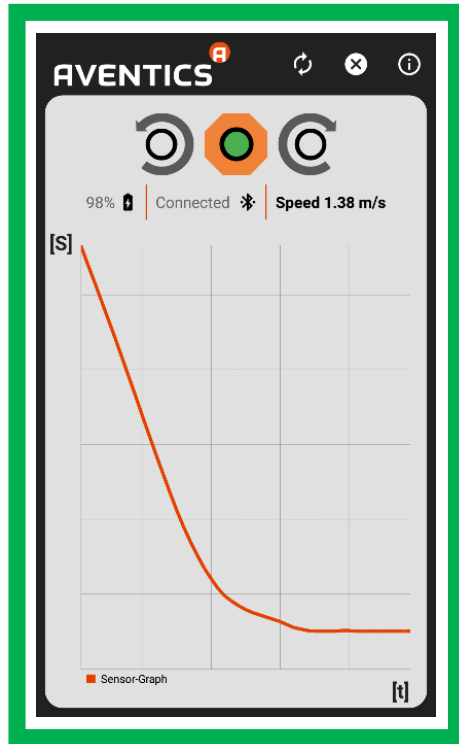


CAT

Quick Guide for Cylinder Cushioning Adjustment
with the AVENTICS **C**ushioning **A**djustment **T**ool

The Ideal Cushioning Diagram



- If the cylinder is correctly dimensioned an ideal cushioning diagram shows a steady reduction of the cylinder piston velocity as it is moving into the pneumatic cushioning.
- A steep curve with a sudden stop or an oscillating curve are signs of a not correctly working cushioning.
- If the cylinder is not correctly dimensioned for the application or if external forces are influencing the movement irregularly a correct adjustment of the cushioning might not be possible.

Overview of the LED

Attention! An ideal adjustment of the cushioning is not possible in every case.

The following displays are possible after the adjustment depending on the circumstances.



Cushioning is adjusted ideally for the application.



Cushioning is borderline adjusted for the application – but OK.

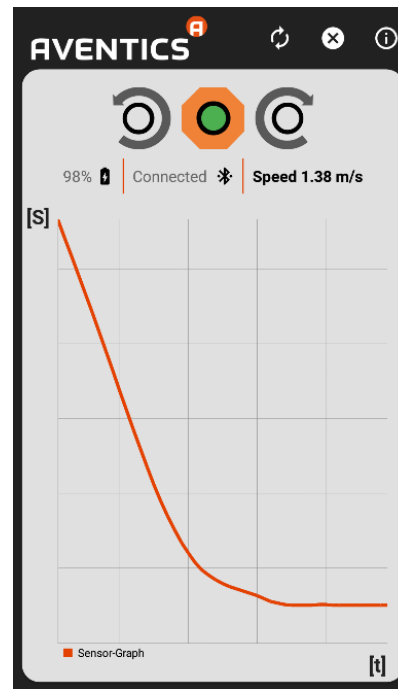
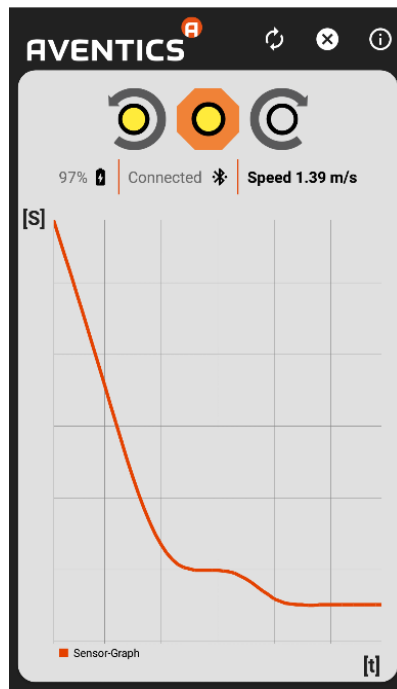
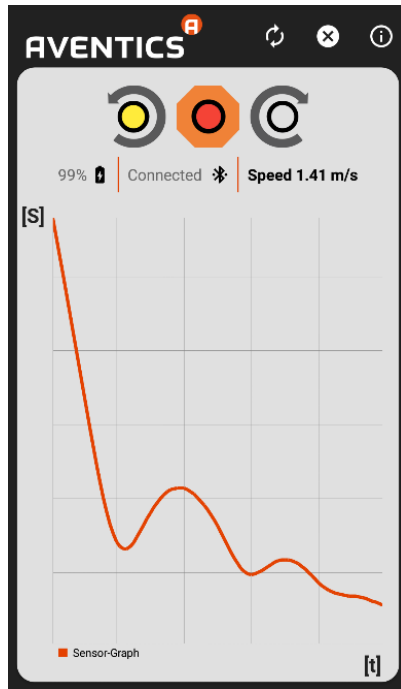
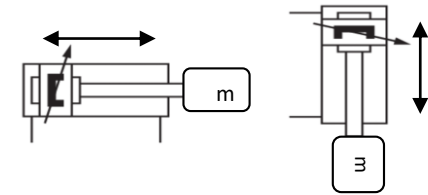


Cylinder is incorrectly dimensioned for the application.



No clear interpretation possible.

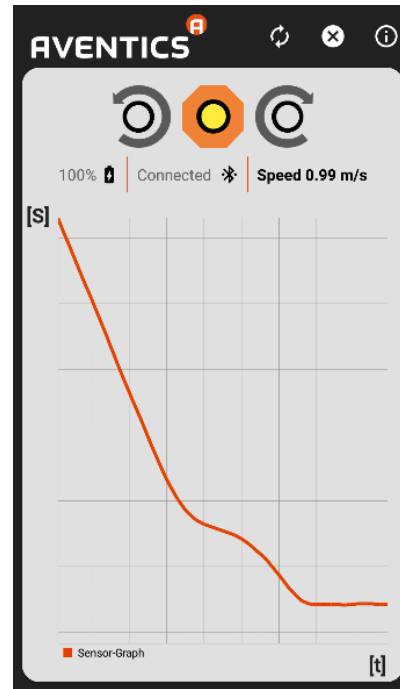
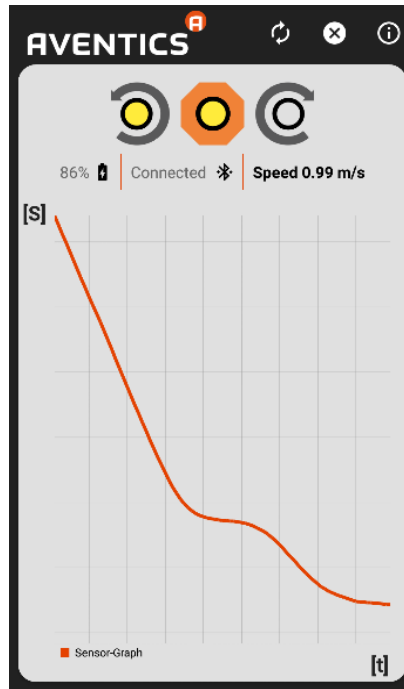
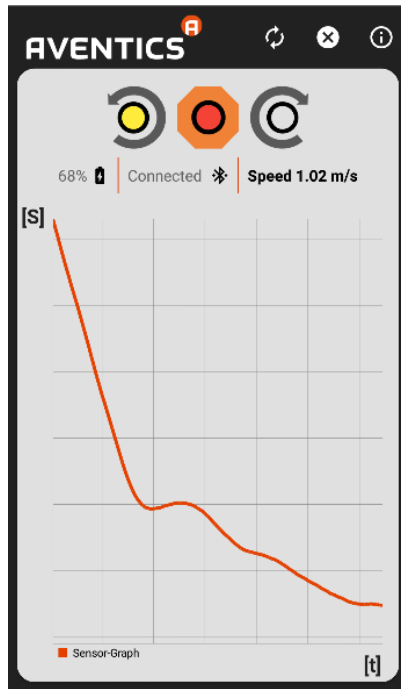
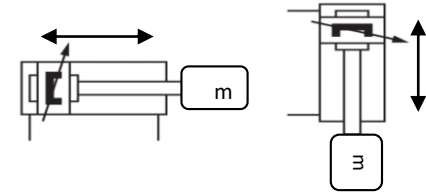
Cylinder correctly dimensioned



- The cylinder is correctly dimensioned for the application
- The CAT recognizes an ideal cushioning curve in which the velocity decreases steadily
- The LED in the middle is showing a green light.

Adjustment according to display

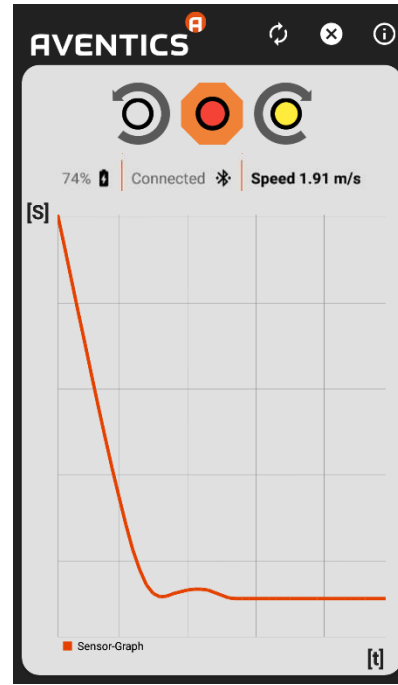
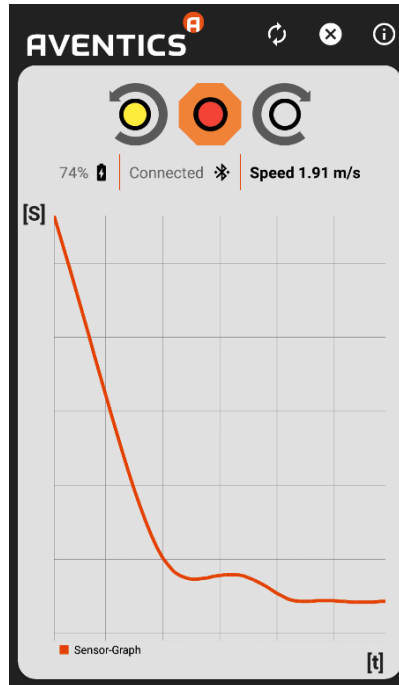
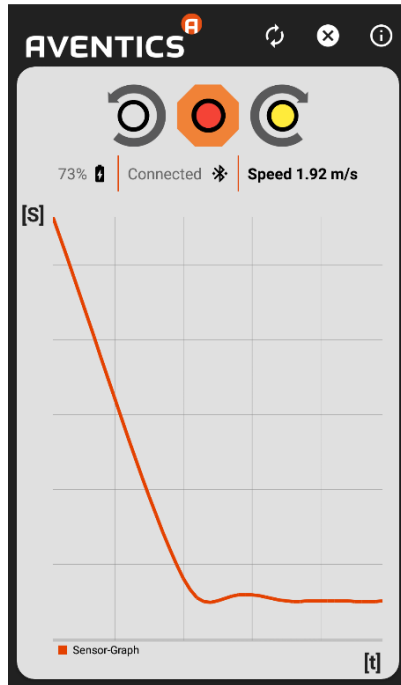
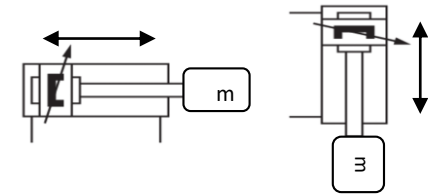
Cylinder is borderline adjusted



- The cylinder is slightly over- or under-dimensioned but still within permissible tolerances.
- The cushioning curve is showing an unsteady reduction of velocity. It is not possible for the CAT to suggest a further improvement.
- The LED in the middle lights up yellow.

Adjustment according to display

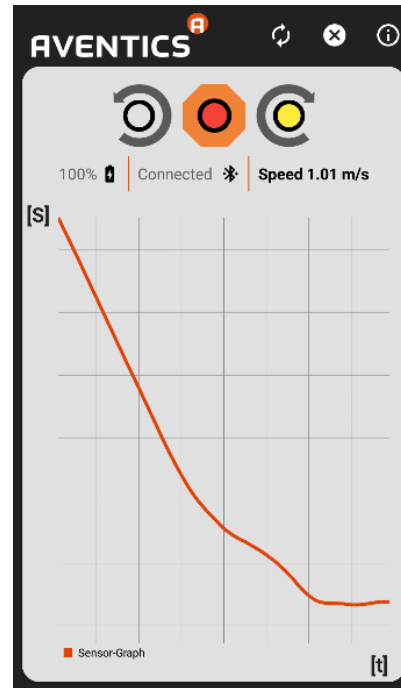
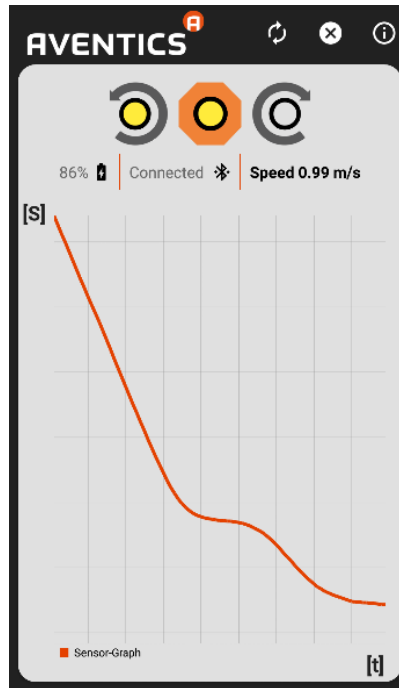
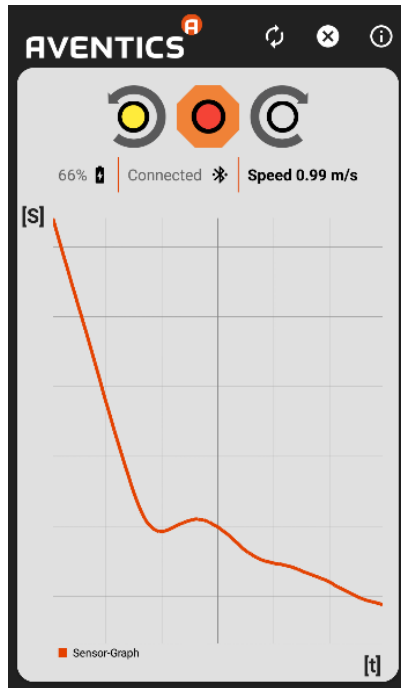
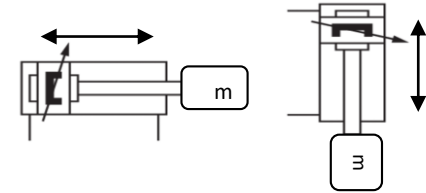
Cylinder is Under-Dimensioned



Adjustment according to display 

- The cylinder is under-dimensioned for the application.
- This is noticeable by the very steep curve with an abrupt reduction of the velocity due to a non effective pneumatic cushioning.
- An ideal cushioning curve is not reachable and the cylinder is being used outside the specification.
- The LED in the middle is showing a red light. One of the adjustment LEDs will show a yellow light.

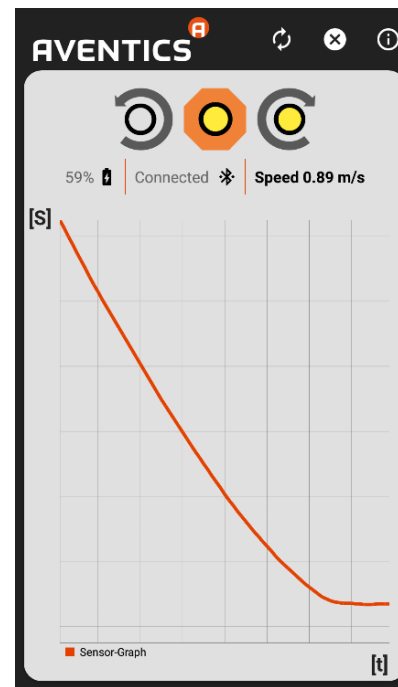
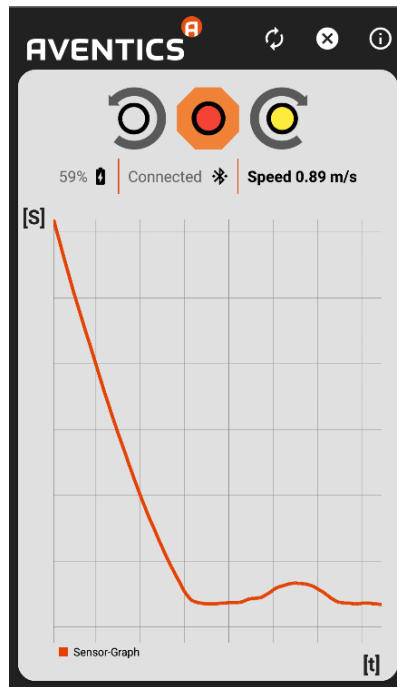
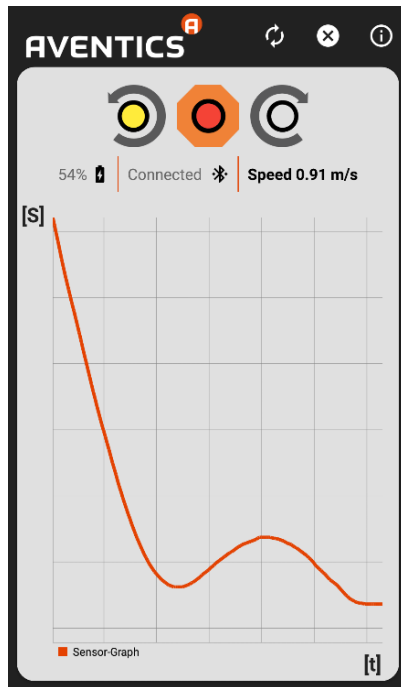
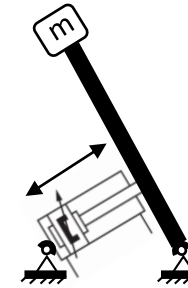
Cylinder is Over-Dimensioned



- The cylinder is over-dimensioned for the application.
- This is noticeable by the unsteady oscillating reduction of the velocity.
- An ideal cushioning curve can not be achieved as the pneumatic cushioning is not fully effective.
- The middle LED therefor stays yellow or red and one of the adjustment LEDs will stay lit.

Adjustment according to display

External Influence



Adjustment according to display 

- The movement of the cylinder is being influenced by irregular outside forces.
- This can lead to an unsteady load during the cushioning process which can prevent a correct interpretation of the cushioning curve by the CAT
- The suggestions made by the CAT might not be useful in this case. An individual interpretation of the cushioning curve can still make an effective adjustment of the cushioning possible.
- The middle LED therefore stays yellow or red and one of the adjustment LEDs will stay lit.