This measurement method uses a manometer, which is used to determine the peak pressure of the BVM Ambu bag. The position of the belt on the CVT is changed from the first position to the last position, whereas the position of the BVM Ambu bag pressing arm will be returned to the non-pressing position at each stage. From these data, it can be seen that the system can suppress the Ambu bag so that it produces the highest-pressure value of 20.2 cm H_2O and the smallest value of 0.4 cm H_2O. At the same time, the rotation of the flexible tuner cable was also measured (No. 14, Fig. 2). The measurement results show no change in the rotation of the flexible tuner cable, as shown in Fig. 13.

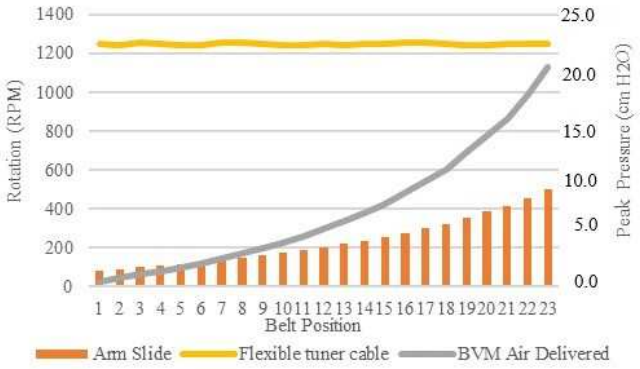

Fig. 13 Flexible Tuner Cable Rotation vs Peak Pressure

IV. Conclusions

This study applies an arm drive model that can suppress the Ambu bag to realize multi-patient VM by implementing a drive mechanism using a CVT cone, worm gear, and reverse gearbox. This can be proven by the ability of this system that there is no change in the rotation of the flexible tuner cable that can later be connected to other ventilators. The air pressure output that can be generated also varies and can be adjusted to the desired amount of pressure. However, this system has a limitation in the CVT system, in which the belt friction with the cone surface will cause heat and cause slippage. In this case, selecting the appropriate material and belt shape must be considered because the ease of displacement of the belt is very important in producing the appropriate speed for pressing the Ambu bag.

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