

Application Information

Wine Bottle Cap Testing

Testing torque required to open screw-on cap

Over the last decade there has been a significant shift in the wine industry and the bottle sealing process. The traditional cork or more recent synthetic (plastic) cork closures have been overtaken by the screw type cap to seal the wine bottle. When properly installed, the screw cap offers a tighter seal and eliminates oxygen penetration longer than cork, ensuring a fresh, spoil free bottle of wine every time. Due to the increased level of quality provided by this technique, the popularity of the screw cap has risen overseas with Australia almost exclusively using this procedure. As this style has become more accepted by consumers, the trend is starting to spread through the US as well due to the lower cost than synthetic or traditional cork.

To ensure that the screw cap has been correctly connected producing a closure seal that is thoroughly secure, wineries and wine bottling facilities require that the bottling equipment install the caps to a specific torque value. A common cap manufacturer specification provides a value of 22 in-lbs of torque necessary to create the high integrity seal.

For quality control purposes, several companies involved in this bottling process have contacted Nidec-Shimpo for a means to test the torque required to remove the screw cap. The Series TNP Digital Torque Meter, specifically model TNP-5 with full scale capacity of 44 in-lbs (5 N-m), has been the perfect solution for these customers. They utilize the TNP-5 daily to spot check bottle caps to ensure that the caps remain at the required 22 in-lbs. Having the proper torque on the cap will ensure that the product stays sealed and fresh for consumption, lowering the vendors costs associated with rejected product.

Equipment Used

- TNP-5 Digital Torque Meter

Optional; Included software for data-logging to computer.

