

## Rheodyne Tech Tip 4: How to Use Proper Syringe Needles

With front-loading injectors, it is important to use the correct needle when loading the sample loop. An incorrect needle will damage the valve and can cause poor reproducibility. When the needle is too short, the tip will not reach the needle seal. When the needle is too small in diameter, the seal will not grip tightly enough. Needles with a beveled tip can damage the rotor seal and stator face assembly (see [Figure 1B](#)).

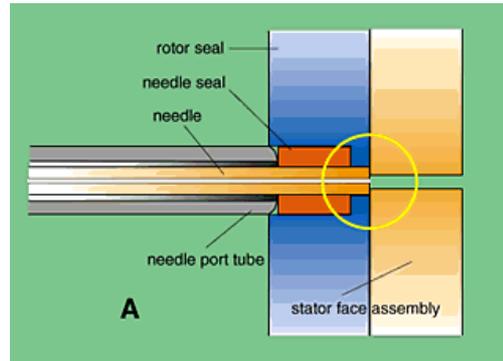


Figure 1A. A square-cut needle stops against the stator face assembly.

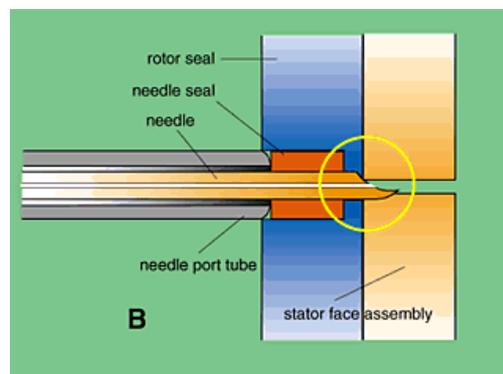


Figure 1B. The tip of a pointed needle slips into the stator face, and the tip breaks off as the valve rotates.

The needle should be #22 gauge, and 90 ° point style (square cut end). Model 3725 requires a #16 gauge needle. Never use a beveled, pointed, or tapered needle. Needle specifications are not critical when using a Loop Filler Port to load the sample loop. However, it is important to tighten the needle port fitting around the needle if using a syringe needle with a slightly smaller diameter than 0.7 mm (0.028"). If the loading method used is complete-filling, a syringe without a needle can be used. A syringe fitted with a needle port cleaner can be used with a front-loading valve ([Figure 2A](#)) or with a loop filler port ([Figure 2B](#)). Be sure to use a proper syringe needle.

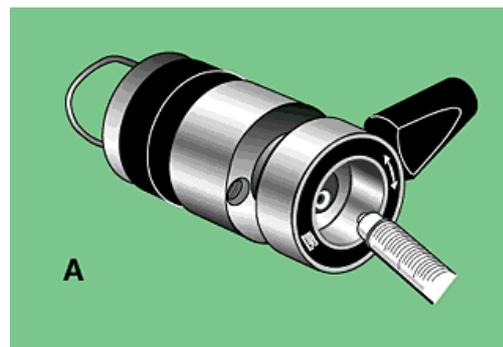


Figure 2A. Syringe fitted with needle port cleaner (Part # 7125-054) loading a front-loading valve (Model 7725).

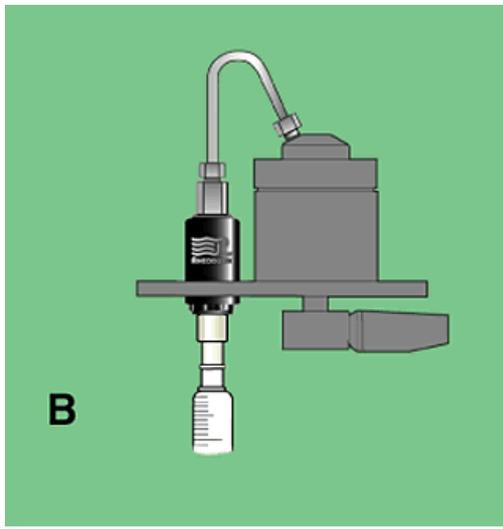


Figure 2B. Loading a loop filler port (Part # 7012).