

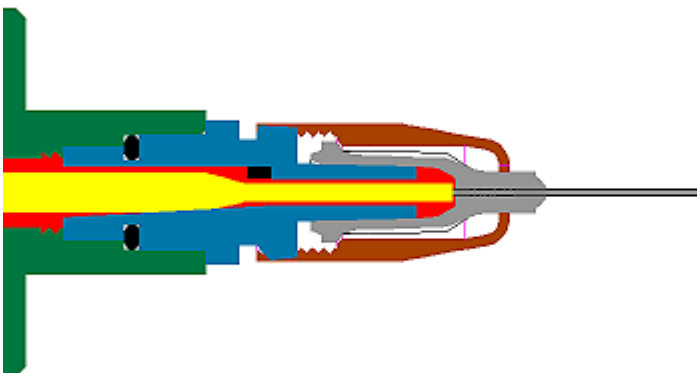
### Micro Needle Valve (98084)



Loctite's Micro Needle Valve offers reproducible precision dispenses down to fractional microliter shot sizes.

It is able to accomplish this by using the actual needle hub (in gray) as the seat to close the valve as can be seen in the cross sectioned image of the valve, Figure 1 (fluid path is in red). The valve needle retaining cap is in brown.

Figure 1



#### COMPATIBLE NEEDLES

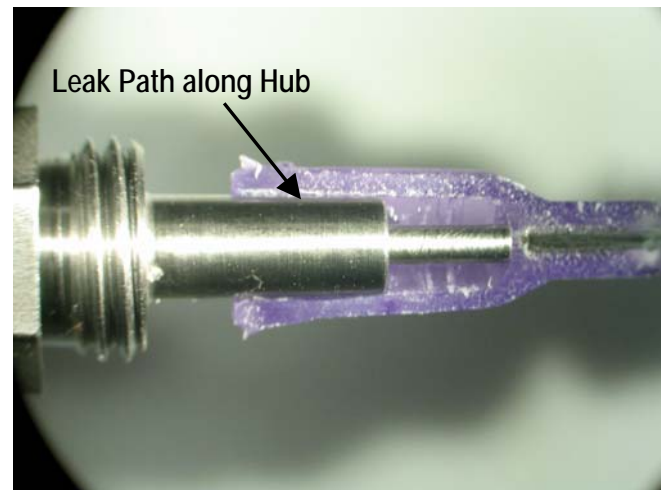
Loctite offers a wide variety of luer tip needles that come in a range of hub styles, needle lengths, needle types and needle shapes.

The micro needle valve is compatible with **any** of Loctite's stainless steel luer lock dispense tips where the needle size is smaller than 0.052" (15 gauge). (Remember that the internal diameter of needles gets smaller as the needle gauge number increases). Combining the high accuracy of this valve with the precision of a fine needle dispense tip provides incredible levels of fluid dispense control.

#### NEEDLE INSTALLATION

Since the hub of the needle is responsible for shutting the valve, proper needle installation is required to ensure the valve seals properly. The only reason that a leak may actually occur is if the stroke of the valve is at its minimum (when the stroke adjustment knob at the back end of the valve is turned fully clockwise) In this position the valve needle rod is forced to stay extended out of the valve as in Figure 2 below. This will not allow the needle hub to seal properly against the tapered luer fitting on the valve and will result in a leak.

Figure 2



When the valve stroke knob is adjusted back approximately six turns the valve needle rod will be able to retract to allow the needle hub to fully engage and seal on the valves tapered stainless luer adapter. Figure 3 and 4 on the following page show the valve with the needle fully seated on the luer adapter (Figure 3) and with the resulting appropriate seating of the needle rod on the needle hub (Figure 4).

Figure 3

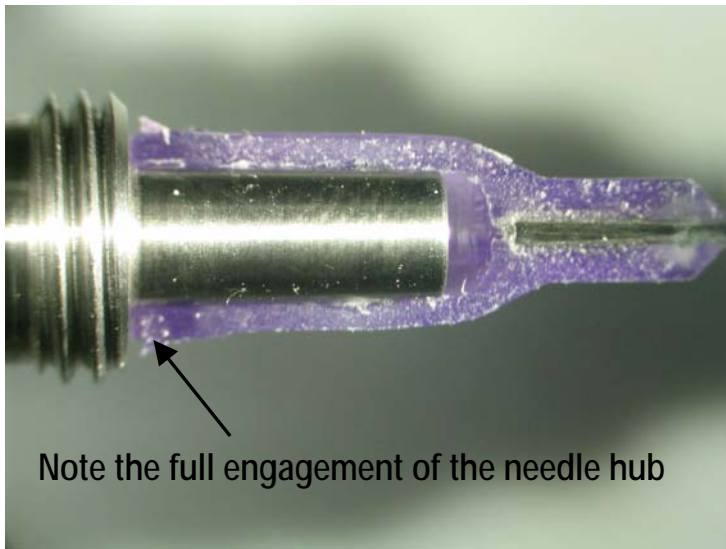
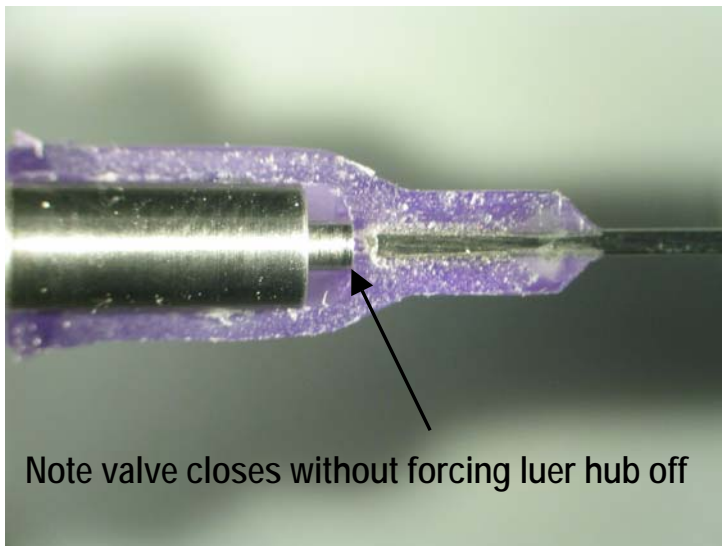


Figure 4



### Summary

- Any stainless steel needle tip smaller than 15 gauge will work with the 98084 Micro Needle Valve. (Larger needle will not work since the needle itself will be bigger than the valve's needle rod.)
- Prior to installing the first needle tip on your valve, adjust the stroke approximately six turns counter-clockwise from being fully seated to allow the needle hub to fully engage on the valve's tapered luer adapter. (Note this is a spring actuated normally closed valve so the needle rod will appear to remain extended but it will retract when the needle retaining cap (brown item in previous figure one) is assembled on the valve.)
- Following the needle installation the stroke can then be adjusted to fine tune the dispense operation.
- It is recommended that this procedure is followed specifically when a different needle hub is used or if the needle supplier is changed.