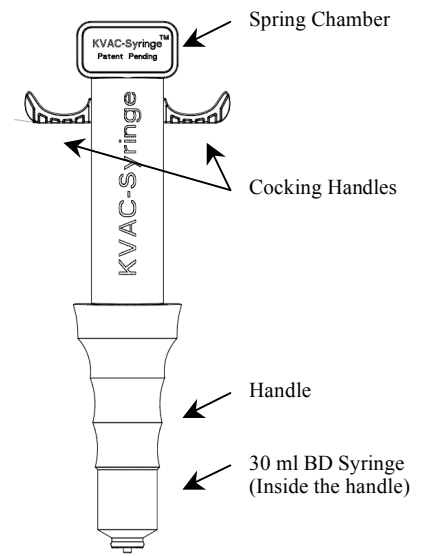


## OPERATING THE LIPOCOSM KVAC-SYRINGE

The Lipocosm KVAC-Syringe is a spring loaded, manually operated, constant vacuum device. A 30 ml BD syringe is embedded inside the device. A constant vacuum is created inside the syringe by the pull of the embedded constant force springs. The springs assembled inside the “Spring Chamber” are attached to the “Cocking Handles” and are not accessible. In the relaxed position, the springs are wound and the plunger is at its outermost position. There is no force, no movement and no vacuum in the relaxed position.

The “Handle” is designed as an ergonomic holding feature for the user.

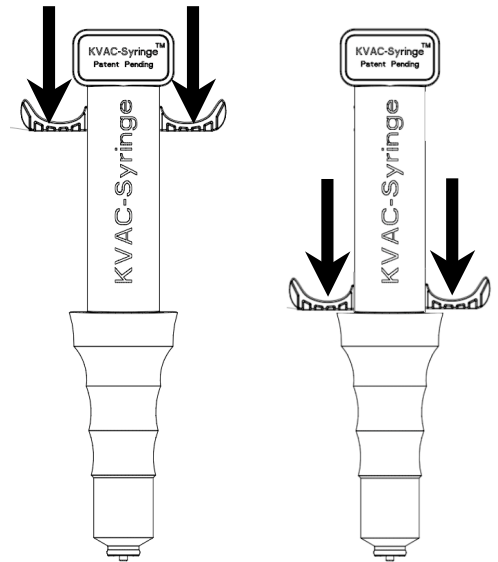
The luer tip of the syringe is accessible for connection to instruments.



## COCKING THE KVAC-SYRINGE

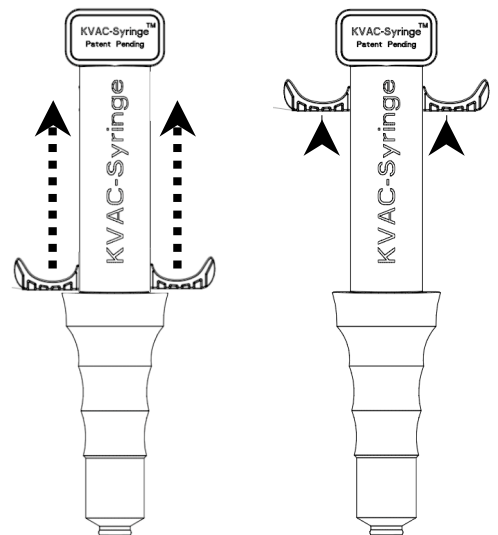
To operate the KVAC-Syringe, the user simply pushes the “Cocking Handles” toward the “Handle”. The user holds the handle with one hand while pushing the cocking handles with the cupped thumb and index fingers of other hand. This is the cocked position. The plunger is all the way in and the springs are unwound. The syringe is empty and is ready to accept the inflow of aspirate. In the absence of inflow (fluid or air) into the syringe, this position is maintained.

A drop of sterile saline or mineral oil can be applied to the springs to reduce friction during use.



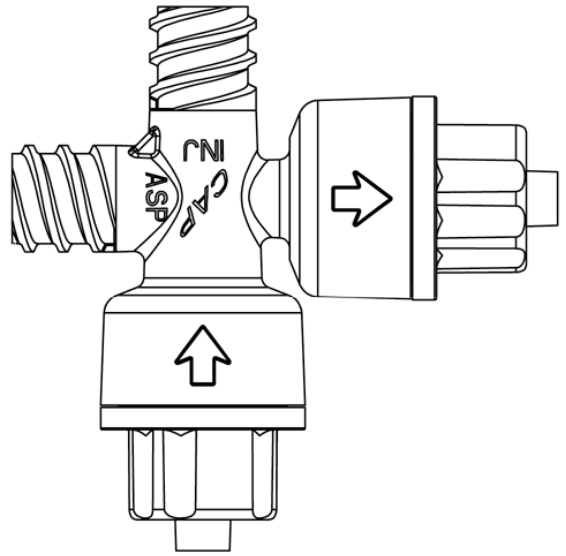
## HARVESTING PHASE OF THE KVAC-SYRINGE

When the cocking handles are let loose, the springs tend to wound up and pull the plunger. This pull action creates the needed vacuum inside the syringe. Once the inflow starts, the springs continuously pull the plunger with the constant force to maintain the desired vacuum inside the syringe. The force, hence the vacuum, stays constant throughout the full excursion of the plunger. Once the springs are totally wound up and the relaxed position is achieved the process can be repeated by cocking the KVAC-Syringe again.



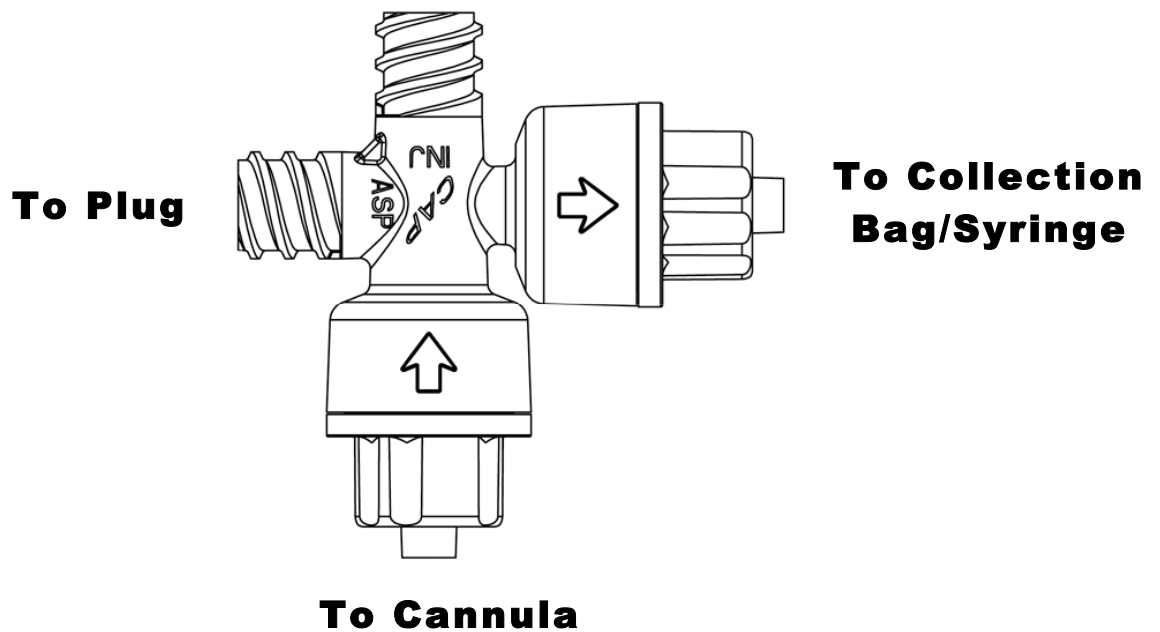
## LIPOCOSM AT-VALVE CONNECTIONS

The AT-Valve is a multi purpose dual valve. The valve body houses two one-way duckbill valves. The flow directions are clearly marked by large arrows on the valve body. The AT-Valve can be used in “Harvesting” or “Reinjection” phases. In either phase, only three ports are actively used. The remaining port has to be plugged with the included male luer plug.



### HARVESTING PHASE

**To Syringe**



### REINJECTION PHASE

**To Plug**

