

# Pulmonary Diagnostics – Calibration of Vyntus Pneumo + APS

## Site Applicability

St. Paul's Hospital

## Practice Level

Basic Skill: Respiratory Therapist

## Requirements

Calibrations are performed on a daily basis. Repeat calibrations may be necessary when large fluctuations in barometric pressure or ambient temperature (greater than 2 degrees Celsius) occur, if equipment parts are replaced/changed, or when troubleshooting equipment.

## Equipment and Supplies

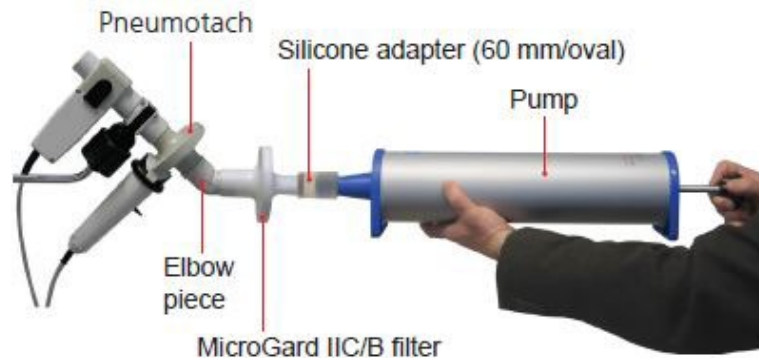
SentrySuite Software  
VYNTUS Pneumo + APS  
3L Calibrated Syringe with MicroGard Filter

## Procedure

### Steps

#### Spirometer Pneumotach

1. From the SentrySuite application desktop, click on the "Calibration" button.
2. Select "Volume calibration".
3. A "Select measuring system" pop-up screen will appear. Choose "Pneumo" to volume calibrate the spirometry flow sensor first.
4. A "Zero adjustment" pop-up window will appear. Hold the pneumotach handle still and upright. Click "OK" to proceed with zero adjustment of the pneumotach.
5. Update **Ambient Conditions**: Click on the thermometer icon on the upper right-hand corner of the screen. A pop-up window appears. Update the current barometric pressure, temperature and humidity. Click "Save".
6. Attach calibration syringe with filter to pneumotach.



7. Click F1 to start measurement.
8. To complete a three flow calibration, pump the calibration syringe piston back and forth, three times at each flowrate: low, medium and high, as indicated by the white lines on the volume calibration graph. The initial stroke is discarded.
9. Once completed, confirm that measurements are within acceptable limits. Repeat calibration as necessary.

#### APS Pneumotach

10. Click on the “Measuring system” tab on upper left-hand side of screen. A “Select measuring system” pop-up screen will appear. Choose “APS” to volume calibrate the APS unit.
11. A Carefusion AirLife filter or an Intersurgical Filta-Guard filter must be attached to the white APS block before calibration begins.
12. **Remove MicroGard filter** from calibration syringe. Attach calibration syringe to patient side of white APS block.



13. Press F1 to begin calibration.
14. A “CalVol” pop-up screen appears. Choose “Calibration”.
15. Pump the calibration syringe piston back and forth slowly, maintaining a flow between +2 and - 2 L/s. Initial strokes are discarded.
16. When completed, Tabular Data should display an inspiratory and expiratory % difference between +/- 10%.
17. Repeat calibration if necessary, otherwise press Desktop icon to return to desktop.
18. Replace MicroGard filter back onto calibration syringe.

## References

Vyaire Instructions for Use, Vyntus SPIRO, Vyntus PNEUMO, Vyntus IOS, Vyntus APS, Manual for SentrySuite Software 3.20, Version 01.00.

American Journal of Respiratory and Critical Care Medicine Vol 200, Issue 8, pp e70-e88, October 15, 2019. Standardization of Spirometry 2019 Update: An Official American Thoracic Society and European Respiratory Society Technical Statement.

College of Physicians and Surgeons of British Columbia, Diagnostic Accreditation Program, *Accreditation Standards, Pulmonary Function* (May 3, 2017).

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<b>Approved By:</b> <i>(committee or position)</i>	PHC
	Pulmonary Diagnostics Coordinator, Respiratory Services Professional Practice Leader, Respiratory Services Medical Director, Pulmonary Function Lab
<b>Owners:</b> <i>(optional)</i>	PHC
	Respiratory Therapy