

Take A Closer Look at the Dideco Avant

Innovation from Dideco Cardiopulmonary. The Avant offers unique innovation in the world of oxygenator design. The oxygenator bundle has very high efficiency due to unique channels that direct blood flow inside the oxygenator. Innovation continues with the reservoir, a unique two chamber design that allows complete control of suction blood. Developed by Dideco in the mid 1990's, over 120,000 Avants have now been run clinically.

Through the merger of COBE Cardiovascular, Sorin and Dideco, this advanced reservoir-oxygenator is now available in the US.

Optimized oxygenator design. The engineers from Dideco took the successful design attributes of previous oxygenators to the next level of advancement. Numerous oxygenators have used cross flow design minimize shear stress, maximize air handling and optimize flow resistance. The Avant improves on these design characteristics by using unique flow channels that improve the consistency of blood flow inside the oxygenator and reduce efficiency losses due to shunting. As a result, the Avant needs only 2 square meters of membrane to have higher gas transfer than oxygenators with significantly more area. These channels also lengthen the blood flow path, which lowers the shear stress without adding to the flow resistance.



Complete suction control: One of the clear trends in perfusion today is better management of suction blood.

Why is suction sequestration important?

Numerous scientific papers and presentations

point out the negative effects associated with direct reinfusion of this blood. The challenge comes in how to sequester suction blood without adding significant cost or complexity to the perfusion circuit.

Avant solves that problem. The unique dual chamber reservoir allows control over suction blood. You can decide when and where suction blood should go. Blood salvage is often the best choice, or if most of the volume is irrigant or there isn't enough to process you can direct it to waste. No other reservoir offers the simplicity and control of Avant. In the event this blood is needed to maintain venous reservoir levels, simply lift the control valve to drain the blood in the sequestration chamber into the venous reservoir.

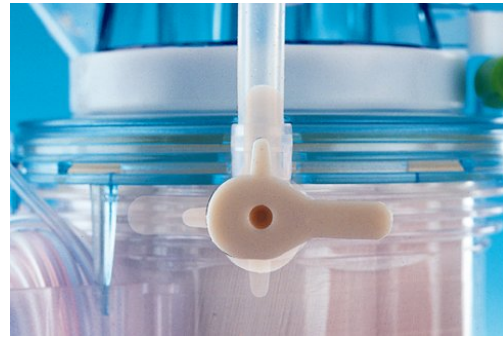




State-of-the-Art CO₂ monitoring: Precise control of CO₂ levels is a key to maintaining not only pCO₂, but base excess and pH too. Unfortunately by the time a blood gas result is back from the lab it may not accurately reflect the current pCO₂ level, making fine-tuning less accurate. Perfusionists can more closely monitor CO₂ levels by using the capnography gas escape port built into the oxygenator. Closer monitoring allows more timely adjustments to fine tune the CO₂ level. The Avant is one of only two oxygenators in the US market with this feature.

Integrated Purge/Recirculation Port

Simplifies Setup and Use: All oxygenators with vertically oriented fibers must have a purge at the top of the bundle to remove air. Dideco took this purge design one step farther. By using a three position valve, you can select no flow, purge or recirculate. This could allow a simpler pack design by elimination of the recirculation lines.



Spring Loaded Valves Make Connections Simple: Access to arterial blood has never been easier. On the side of the oxygenator above the arterial outlet is a port that may look a little strange. Inside is a spring-loaded valve. Using the connector supplied with the oxygenator, attach tubing to the 1/4" barbed port and clamp. Install the connector with a quick twist, which will open the valve. That's it. No wiping tubing with alcohol or handling blades to cut into lines.

The same valve connects the purge/recirculation line to the reservoir. In the event of a change out, disconnect the line from the bottom of the reservoir. The valve will close without the need to clamp.

Even the Bracket is Innovative. Tired of connecting and disconnecting water lines between cases? The Avant bracket solves that problem by integrating the water fittings into the oxygenator. The water connections are easy to reach and secure with the flip of a latch. In the event the oxygenator bundle needs to be changed out, the bracket is capable of holding the reservoir independently without the need for a second bracket.