

**A-201 FLOWTEK
Vascular Demonstration Module, US /European configuration**

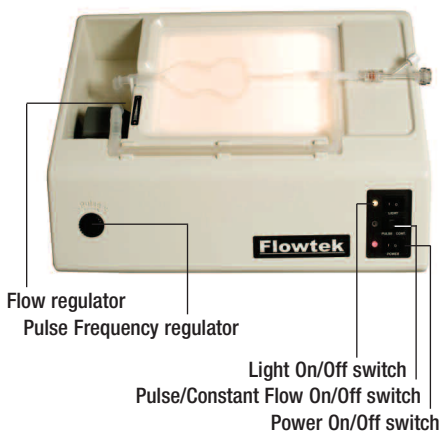
OPERATION MANUAL

INTRODUCTION

A-201 FLOWTEK Vascular Demonstration Module is a self-contained, transportable, tabletop vascular demonstration unit that allows demonstration or training in the use of aneurysm coiling, carotid or aneurysm stents, microcatheter and guidewire testing, AVM embolization, etc. in transparent vascular models with pulsing flow of liquid through them. It is simple to use with easily understood control features. It is sufficiently light and small for carry-on baggage. Unit is comes in a rugged carrying case. Integral fluid reservoir allows the use of clear or tinted liquids. The unit operates with conventional electrical outlets and is available in both US and European configurations.

It comes with optional accessories that include several types of VASCULAR MODELS. They have seamless interior walls, and can be configured with various wall thicknesses. The models are made from translucent tear-resistant silicones for easy viewing during procedures. You can also order custom Vascular Models to use in conjunction with the FLOWTEK A-201. These models will have vessel configurations to suit your needs.

**FIGURE 1
Flowtek A-201 Controls**



A-201 SPECIFICATIONS

- Dimensions: 3.75 inch/ 9.5 cm height, 11.0 inch/ 28 cm width, 15.0 inch/ 38 cm length
- Weight/ Dry: 5.8 lbs. (unit only)
- Flow Rate: 0 to 140 gallons per minute - submersible pump
- Pulse Rate: 60 to 90 per minute - variable
- Illumination: 75 watt incandescent Power: 120 volts, 60 amps, 60 Hz, (United States), European Specification packages available

SAFETY PRECAUTIONS

WARNING: DO NOT REMOVE THE GROUND PRONG (THIRD PIN) FROM THE POWER CORD, OR USE AN UNGROUNDED ADAPTER! THE WATER BATH REQUIRES A 3- WIRE RECEPTACLE. IF ONE IS NOT AVAILABLE, CONSULT WITH AN ELECTRICIAN FOR INSTALLATION.

WARNING: ALWAYS TEST GROUND FAULT PROTECTION (See Fig. 2) BEFORE USING THE UNIT! IN ORDER TO TEST THE GRIUND FAULT PROTECTION.

- | | |
|--|---|
| A. Connect the instrument to a wall outlet | C. Press TEST button. The RESET button should POP OUT |
| B. Press and release the RESET button | D. Press RESET button again, and begin using the unit |

UNDER NO CIRCUMSTANCES USE THE UNIT IF THIS TEST FAILS. RETURN IT FOR REPAIRS.

WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT DISASSEMBLE THE UNIT. NO USER SERVICEABLE PARTS INSIDE.

WARNING: DO NOT OPERATE WITHOUT WATER; IT WILL CAUSE FAILURE THAT CAN REQUIRE EXTENSIVE REPAIRS.

WARNING: THE MODULE MUST BE OPERATED ON A HARD HORIZONTAL SURFACE TO ALLOW THE CIRCULATION OF AIR BELOW THE UNIT.

**FIGURE 2
Ground Fault Protection**



OPERATION INSTRUCTIONS

1. Make sure that the POWER switch is in the OFF position.
2. Connect the power cord to a grounded (3-wire) wall socket. For the European Configuration unit use the transformer and connector that are supplied with the main module.
3. Test the Ground Fault Protection as per procedure above. DO NOT USE THE UNIT IF THE TEST FAILS.
4. Set the Pulse Frequency regulator in the middle position.
5. Fill the reservoir with water so that the water level was ~1/4" (2-4 mm) above the top of the pump. Distilled water is recommended to minimize mineral staining.
6. Attach the vascular model and the auxiliary tubing as shown in Figure 3.
7. Turn the Power Switch to "ON".
8. Turn the Light Switch to "ON".

DO NOT OPERATE PUMP WITHOUT WATER; IT WILL CAUSE FAILURE THAT CAN REQUIRE EXTENSIVE REPAIRS.

**FIGURE 3
Model and Tubing Assembly**



OPERATION OF THE PUMP

Use the PULSE/CONST switch to turn the pump ON and OFF, and for choosing the regime of its work.

- When the knob is in the middle position, the pump is switched OFF.
- In the left (PULSE) position the pump works in the pulsing regime, imitating the work of a heart.
- In the right (CONST.) position the pump provides a constant flow of water through the model without pulsation.

The flow volume is controlled by the FLOW REGULATOR, a lever that is located at the right side of the water reservoir. Flow is increased when the lever is moved towards the back of the module, and is decreased when it is moved towards the front of the module.

PACKAGING THE MODULE

1. Turn the POWER witch to the "OFF" position and unplug from outlet.
2. Discard the water from the reservoir, model and all the connected tubing by pouring AWAY from the front of module.
Wait for 1-2 minutes to let water drain from the pump, and pour the remaining water out.
3. Wipe the remaining drops of water with paper towels.
4. Return the unit into the traveling case.

CLEANING INSTRUCTIONS

CAUTION: DO NOT IMMERSE IN WATER WHEN CLEANING!

1. Use paper towels wetted with water with a mild detergent. Keep water out of seams and electrical openings. To minimize cleaning maintenance and mineral deposit stains, fresh distilled water is recommended. Cleaning is recommended after each use.
2. Dry thoroughly, replace lid cover and store in convenient area.

TROUBLESHOOTING

1. A-201 does not function after it is switched ON

1.2 Switch the Power OFF

1.3 Test Ground Fault Protection:

- 1.3.1 The red "Reset" button must be in the depressed (lower) position. If it "pops out" after being pressed, return the module to DialAct Corp. for repairs
- 1.3.2 With the "Reset" button in the depressed (lower) position, switch the power on the A-201. If the "reset" button on the Ground Fault Protection "pops out" after being pressed, return the module to DialAct Corp. for repairs

1.4 Check the fuse (Figure 4).

- 1.4.1 Turn the unit upside down, and place it on a soft surface
- 1.4.2 Using a flat screwdriver, turn the cap of fuse holder for ~1/4 turn
- 1.4.3 Extract the fuse by pulling the fuse holder cap out
- 1.4.4 If needed, install a new 1A, 250V fuse.
- 1.4.5 Install the fuse holder cap with the fuse back
- 1.4.6 If it does not help - return the module to DialAct Corp. for repairs

2. Lighting does not work

- 2.2 Switch the Power OFF.
- 2.3 Turn the unit upside down, and place it on a soft surface
- 2.4 Twist the lamp protective cover counter clockwise, and remove it
- 2.5 Replace the bulb with a new 20W, 12 V, type JC, G4 base bulb
- 2.6 Replace the protective cover with a slight clockwise motion
- 2.7 If lighting does not work after replacement of both bulbs, return the module to DialAct Corp. for repairs

3. The pump does not provide pulsing flow

- 3.2 Return the module to DialAct Corp. for repairs

FIGURE 4
Underside of the Unit
(Fuse and Light Bulbs)



Fuse holder Light Bulbs

If you are experiencing a problem with module that is not covered in these instructions,

please contact DialAct Corp. for further assistance via telephone at: **(510) 659-8099** or via E-mail: **mail@dialact.com**.

PLEASE, DO NOT DISASSEMBLE THE UNIT. IT VOIDS THE WARRANTY AND CAN SIGNIFICANTLY INCREASE REPAIR COST

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