



# Regulator

## REF TR9085

For use with Escalon TR9088 SF6 and TR9089 C3F8 Intraocular Gas Cylinders

### DIRECTIONS FOR USE

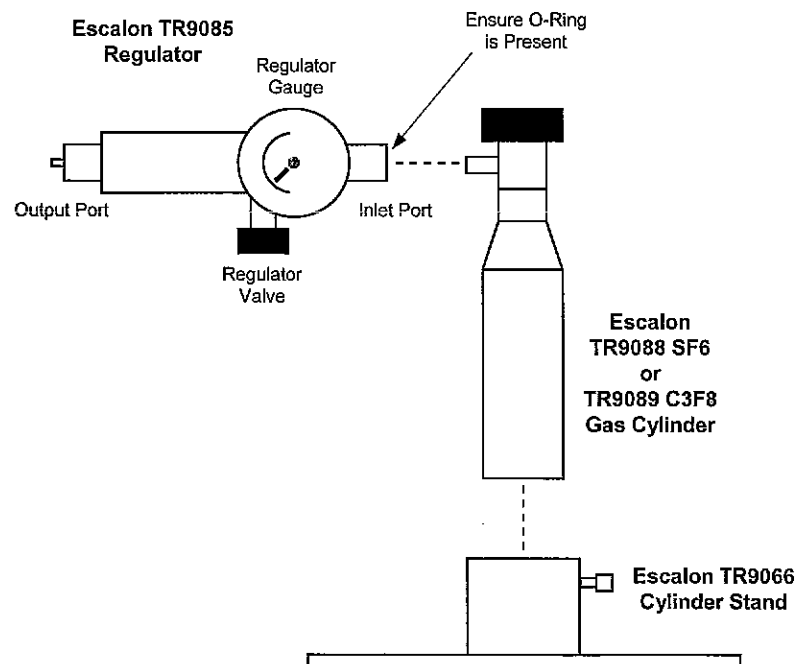
(English)

#### WARNINGS

- ↪ To operate this regulator, it is required that the operator be trained in its proper use and/or is under competent supervision.
- ↪ This regulator is only for use with Escalon TR9088 SF6 and TR9089 C3F8 Intraocular Gas cylinders. In particular, this regulator is not for use with gas cylinders exceeding 400 psig (2758 kPa).
- ↪ The following directions for use must be observed in order to prevent accident, injury, or damage to the equipment.

#### Connecting Gas Cylinder to Regulator

1. Secure the gas cylinder to be used (Escalon TR9088 SF6 or TR9089 C3F8) to stand (Escalon TR9066).
2. Inspect valve of gas cylinder for damaged threads and for traces of dirt, dust, oil, and grease. Remove dirt and dust with a clean cloth.
  - ↪ If threads are damaged or if oil or grease are detected, DO NOT USE cylinder.
3. Inspect regulator inlet port for damaged threads and for traces of dirt, dust, oil, and grease. Remove dirt and dust with a clean cloth.
  - ↪ If threads are damaged or if oil or grease are detected, DO NOT USE regulator.
4. Verify that the o-ring is in place within the inlet port.
  - ↪ If o-ring is missing, DO NOT USE regulator and contact Escalon for a replacement o-ring.
5. After both cylinder valve and regulator inlet port (including o-ring) have been inspected, attach the regulator to the gas cylinder. Securely tighten the connection with a 3/4" wrench.



### **Regulator Functionality Check**

1. First close the REGULATOR VALVE by turning the adjusting knob of regulator CLOCKWISE until it comes against a stop (zero setting).
2. Stand behind gas cylinder so that cylinder is positioned between operator and regulator.
3. Turn the GAS CYLINDER VALVE COUNTER-CLOCKWISE slowly until the hissing sound of the gas flowing into the regulator can be heard. The pressure increase should be visible on the regulator gauge (which measures the pressure of the cylinder).
4. Once the inlet pressure indicated on the gauge has stabilized, close the gas cylinder valve. The pressure reading of the regulator gauge should remain the same over a five-minute period.
  - ↳ *If any noticeable decrease in pressure is observed, DO NOT USE regulator.*

### **Gas Dispensing**

1. After ensuring that the REGULATOR VALVE IS CLOSED, slowly open the GAS CYLINDER VALVE by turning COUNTER-CLOCKWISE until valve is fully opened.
  - ↳ *If inlet pressure of less than 50 psig (350 kPa) is observed as indicated by the red section of the gauge, DO NOT USE cylinder.*
2. Connect intended output device (such as an Escalon TR9060-61 Universal Gas Kit) to the output port of the regulator.
3. Fill the syringe of the output device in a controlled manner by slowly turning the REGULATOR VALVE COUNTER-CLOCKWISE. Be certain that the syringe plunger of the output device is held to prevent separation from the syringe body when filling with gas.
4. When supply pressure to the output device is no longer required, turn the REGULATOR VALVE CLOCKWISE until it comes against a stop (zero setting).
  - ↳ *IMPORTANT: The valve of the gas cylinder should also be fully closed between each use. Leaving the cylinder valve open will lead to premature wearing of the regulator.*
5. Disconnect output device from regulator.

### **Disconnecting Gas Cylinder from Regulator**

1. Ensure the GAS CYLINDER VALVE is fully closed by turning CLOCKWISE.
2. Drain gas left within the regulator by turning the adjusting knob of the REGULATOR COUNTER-CLOCKWISE until all gas within the regulator has been dispersed.
  - ↳ *WARNING: Disperse gas in a well ventilated area (see DFU provided with Escalon TR9088 SF6 and/or TR9089 C3F8 gas for further instruction regarding safety hazards and environmental concerns).*
3. Remove the regulator from the gas cylinder by unscrewing the nut of the inlet port.
  - ↳ *Ensure that the o-ring stays in place within the inlet port.*

### **Note**

- ↳ This regulator is equipped with an inlet port compatible with the valve of the Escalon TR9088 SF6 and TR9089 C3F8 gas cylinders according to CGA specifications.



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