CLAIMS

1. A connector for a medical tube, wherein the connector comprises:

a first portion having a first opening configured to receive a flow of gases,

a second portion having a second opening, the second portion configured to engage with a medical tube and provide a flow of gases to the medical tube through the second opening,

a lumen formed by the first portion and the second portion, the lumen providing a gases flow path between the first opening and the second opening,

wherein the first portion of the connector comprises a sensor port, the sensor port configured to receive a sensor,

wherein the second portion of the connector comprises at least one electrical port, the electrical port configured to provide an electrical connection to at least one wire in the medical tube,

and wherein the sensor port is offset about 120 to about 75 degrees, or about 110 to about 80 degrees, or about 90 degrees, about a longitudinal axis of the lumen relative to the electrical port.

2. The connector of claim 1, wherein the first portion is angled with respect to the second portion to form an elbow.

3. The connector of any of claim 1 or 2, wherein the angle between the first portion and the second portion is about 90 degrees to about 170 degrees, or about 100 degrees to about 150 degrees, or about 110 to about 140 degrees, or about 135 degrees.

4. The connector of any one of claims 1 to 3, wherein the first portion provides for a taper fit connection.

5. The connector of any one of claims 1 to 4, wherein the sensor port provides an aperture for the sensor to be inserted so as to be in contact with a flow of gases in the first portion of the connector.

6. The connector of any one of claims 1 to 5, wherein the sensor is configured to measure flow rate of the flow of gases in the first portion of the connector and/or measure temperature of the flow of gases in the first portion of the connector and/or measure humidity of the flow of gases in the first portion of the connector.

7. The connector of any one of claims 1 to 6, wherein said sensor is comprised as part of a probe, the probe for being received by the sensor port.

8. The connector of any one of claims 1 to 7, wherein opposite sides of the elbow define internal and external elbow surfaces, and wherein the electrical port is located on the external elbow surface.

9. The connector of any one of claims 1 to 8, wherein the sensor port is oriented perpendicular to the first portion.

10. The connector of any one of claims 1 to 9, wherein the sensor port is oriented perpendicular to a longitudinal axis of the first portion.

11. The connector of any one of claims 1 to 10, wherein the electrical port is oriented perpendicular to the second portion or located tangential to an outer surface of the connector.

12. The connector of any one of claims 1 to 11, wherein the electrical port is offset from a longitudinal central axis of the second portion of the connector.

13. The connector of any one of claims 1 to 12, the sensor port having a longitudinal axis, the sensor port allowing communication with an interior of the connector.

14. The connector of any one of claims 1 to 13, wherein the longitudinal axis of the sensor port is oriented substantially perpendicularly to the flow of gases through the first portion of the connector.

15. The connector of any one of claims 1 to 14, wherein the longitudinal axis of the sensor port substantially intersects a corresponding longitudinal axis of the first portion of the connector from which the sensor port depends.

16. The connector of any one of claims 1 to 15, wherein the sensor port comprises a substantially cylindrical cross-section.

17. The connector of any one of claims 1 to 16, wherein a terminal surface of the sensor port distal of an outer surface of the first portion comprises one or more locating features.

18. The connector of any one of claims 1 to 17, wherein the electrical port is configured to extend in a direction upward and/or away from the humidifier when the connector is connected to a humidification chamber.

19. The connector of any one of claims 1 to 18, wherein the electrical port comprises at least one connection point, the connection point configured to provide for connection of the electrical port to the at least one wire.

20. The connector of any one of claims 1 to 19, wherein the connector comprises at least one guide feature configured to direct the at least one wire from the tube wall of the tube, and/or a pin connected to said at least one wire, to the electrical port and/or the or a connection point of the electrical port.