



“Degrees Ahead in Quality”

The Oxy-Gon Fiber Draw Furnaces, Models FD-30, FD-60 & FD-80 are designed to minimize the generation of particulates and to maximize the production of quality fiber.

Special features of these furnaces are:

- * Competitive Pricing
- * Low Generation of Particulates
- * Long Heating Element Life
- * Superior quality of materials and workmanship
- * High efficiency resulting in lower power requirements and water use
- * Optimum Heat Zone component sizes for Preforms from 5 to 80mm in 5mm increments

Generally, the basic furnace System includes the following components:

- * Furnace Assembly
- * Power Supply
- * Heat Zone
- * Control Console with all necessary Controls and Programmers, etc.
- * Gas Management System



The furnace is rated for a maximum operating temperature of 2300°C (4172°F) in an inert gas atmosphere. For low temperature applications, Nitrogen may be used. Mass flow meters/controllers are optional and can be used to manage an Argon/Helium mix system.

FURNACE ASSEMBLY:

The chamber is a double walled cylinder of 304L stainless steel. Water is circulated between the walls to ensure an external skin temperature of less than 120°F. Power to the heating element is supplied by nickel plated water cooled power feedthroughs located in the chamber. All other flanges are either of 304 stainless steel or nickel plated copper. Aluminum flanges are only used if they do not incorporate a water passage.

HEAT ZONE:

The all-graphite heat zone is unique in that it employs a “sacrificial” tube to protect the heating element from erosion caused by the reaction to Si or O₂. This “sac” tube is both easy and relatively inexpensive to replace and will extend the life of the heating element significantly. The heat zone is designed to provide the ideal sized components for preform sizes, in 5mm increments from 5mm to 80mm.

POWER SUPPLY:

Power supplies can be provided for any three phase service between 200 to 480 volts and 50 or 60 Hertz. The stepdown transformer/rectifier assembly supplies DC power to the heating elements via water cooled power cables. AC power supplies are also available.

TEMPERATURE CONTROL:

Temperature control and over temperature limiter are provided by two closed-loop systems which employ an optical pyrometer and power transducer.

GAS MANAGEMENT SYSTEM:

The standard system includes manual flow meters to control gas entering and exiting the furnace. Mass flow meters or controllers are available as options. This system is designed to control the gas both before and after it has become “contaminated” by entering the heat and melt zones and ensures that dirty gas does not exit the furnace uncontrolled. This is of particular importance when the furnace is to operate in a “clean” room environment. Also included in the gas system is an evacuation pump to purge the furnace of air. This pump is also used to maintain the flow of dirty gas to a port on the control console where it may be directed outdoors or to an “in house” scrubbing system.

For a comprehensive review of your specific requirements, please contact OXY-GON'S technical sales personnel for a customized proposal with specifications.



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MODEL FD-80 (80mm) FIBER DRAW FURNACE

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