

# Arrival of Your Chamber

Prior to its arrival, please refer to your order acknowledgement for the specifics of all utilities required to operate your chamber. Confirm that all of the necessary utilities have been installed and are functional before the chamber's arrival. These items typically pertain to condensate drainage and the supplies for electricity, water, and air.

## 1) Electrical Supply

120 Volt AC Single Phase 15 Amp dedicated circuit. DC-5 dryers will require an additional 120 volt single phase 15 Amp circuit. DC-5 dryer adds approx. 4.5" depth to chamber. (If other voltage is specified, electrical service to chamber must be provided on its own dedicated circuit.) \*Exceptions: KB084 and FZ084 models require 120 VAC single phase 20 amp dedicated circuit. PG068 models require 2 dedicated circuits, 120 VAC single phase 15 amp. FS084 and TH084 models require a 20 amp, 3 pole- 4 wire grounded 120/240 circuit(NEMA L14-20P). Custom chambers may require different electrical supply.

## 2) Water Supply

If your chamber includes an optional humidifier, the humidifier must be connected to a non-softened water supply with a conductivity of 0.1-10  $\mu$ S, a TDS of <10 ppm (parts per million), and 1-10 PSI (pounds per square inch) of water pressure. This ensures the proper operation and longevity of the humidifier. If water quality is unknown, please send a water sample to Darwin Chambers for testing (fees may be applicable) before your chamber's arrival. The water connection to the chamber is 1/4" OD polyethylene tubing. A 1/4" OD quick connect style connector is provided with the chamber so the humidifier can be removed for maintenance without shutting off the water supply. For installations in locations lacking a suitable water supply, a 5-gallon carboy/water jug can be used. It must be mounted on a shelf capable of supporting the carboy's weight when full of water. The shelf must be mounted higher than the top of the chamber in order to allow gravity to feed water into the humidifier. Under no circumstances should the carboy be placed directly on the chamber.

## 3) Facility Supplied Compressed Dry Air

For basic compressed air to chambers: A compressor with 100-150psi capability, regulated to 70psi is required. The larger the storage tank, the better, to limit compressor cycling (dependent upon usage/ settings). An automatic condensed water removal system and multistage filter is required. Exact cfm requirements and dewpoint of compressed air will depend on specific customer applications. Darwin Chambers tests models with -40 degrees C dewpoint air, but specific applications may need lower or higher dewpoint air. We make no further specifications or other recommendations beyond these items. The air supply connection uses 1/4" OD polyethylene tubing.

A (customer facility supplied) compressor capable of providing 5 sCFM of air at 70-90 PSI (For single Chamber needing dry air), is recommended for use on our chambers. ( chamber requires max of 3.3 sCFM) This air source should be stripped of moisture with some form of dryer and filter to ensure the line does not become saturated with moisture and debris. The compressed dried air must have a dew point lower than the desired chamber set point. We make no further specifications or other recommendations ( Tank size, duty cycle, dB, Electric power, or HP). The air supply connection uses 1/4" OD polyethylene tubing. Tanks of compressed air not acceptable for long term use. Chamber set points that are lower dew points than ambient conditions will require longer run times than chambers having a dew point at or above ambient dew point, for air compressors. Compressors not meeting these specifications could cause more compressor wear and longer recovery times for chamber to reach set point and/ or performance. For multiple chambers use (Chamber MAX sCFM) 3.3 \* Amount of Chambers \* 1.5 = sCFM needed. Flow rate is adjustable per chamber. Less sCFM helps to prevent overshoot. More sCFM to achieve lower dew point rapidly.

#### 4) **Drainage**

Each chamber is supplied with 1/2" ID, 5/8" OD drain tube that extends 3 feet from the chamber. Additional tubing available. Each chamber should be installed level and near a floor drain to facilitate proper condensate drainage. If a floor drain is unavailable, a low-profile condensate drain pump (available from Darwin) may be required for proper condensate removal. The condensate pump will require 3/8" ID polyethylene tubing. If installation services are being provided and you do not have an available drain and/or a condensate pump, please specify your intended remedy before the chamber's arrival at your facility.

Each chamber arrives in a protective crate. You will need to confirm that your facility is able to accept a 91" high and 44" deep crate. A pallet jack and/or forklift are strongly recommended for 2- and 3-door chambers. To uncrate the chamber, we advise a 6-foot step ladder, a ratchet with 3/4" socket, and an electric drill with a Phillips tip. Upon removal of the crate, you will need to make sure all doorways leading to the chamber's final location can accommodate its size (including hardware, such as door closures, magnetic locks, etc.). On most chambers, a minimum clearance height of 81" will be needed.

Ambient spacing required: a minimum clearance of 12" from the top of each chamber and 6" on all sides is required. To allow for optimal performance as specified, please allow at least 2" clearance on all sides and 4" from interior ceiling of chamber.

To ensure trouble-free installation and operation, we strongly advise reviewing the Operations Manual prior to providing power to your new chamber. The flash-drive containing your manual is included within the chamber's documentation packet (manila envelope). Failure to properly familiarize yourself with your new chamber prior to operation may result in improper operation, chamber damage, a voided warranty, and/or a billable service visit.

Please note that if your chamber has a condensing unit (all sizes of KB, DB, ST, FS, FZ, LT, TH, AR, MJ, PG, INR and MC models), it must remain upright for a minimum of 24 hours before power is supplied to the chamber.



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