3 STEPS TO MAXIMIZE FILTRABOX FILTER LIFE

1) IMPORTANCE OF CALIBRATING THE FILTRABOX

Calibration is a **critical** first step in setting up the Filtrabox. It sets the parameters upon which flow control and filter alarms are based.

Calibration should only be initiated when the filters are new and when the Filtrabox is connected to the laser. **Never re-calibrate the Filtrabox with used filters or without being connected to the laser via the supplied ducting. Doing so may lead to improper flow settings and erroneous filter alarms.**

See page 2 for calibration instructions.

2) HOW TO OPTIMIZE PERFORMANCE AND FILTER LIFE THROUGH APPROPRIATE FLOW % SETTINGS

Though the flow settings on the Filtrabox are adjustable from 0% to 100%. Filter life can be optimized by setting the flow % to the lowest value that will adequately extract the smoke and odours emanating from the laser. **The lower the flow setting, the longer the filters will last. Setting the flow % excessively high will prematurely consume the filters.**

An easy way of determining the optimal balance between extraction efficacy and filter longevity is to use the *4-6 second rule*.

See page 3 for the *4-6 second rule* procedure.

3) DO NOT MANUALLY ADJUST FLOW% TO COUNTERACT FLOW RESTRICTIONS DUE TO FILTER DUST LOADING. FILTRABOX'S AUTO-COMPENSATION FLOW CONTROL WILL MAINTAIN THE FLOW SET-POINT AND OPTIMIZE FILTER LIFE FOR YOU.

Once you have established the optimal flow set-point by following the 4-6 second rule, the displayed flow % will be automatically maintained by Filtrabox's intelligent auto-compensation flow control system. The auto-compensation feature will automatically and incrementally increase the power of the blowers to overcome the additional resistance due to the dust load and maintain the original set-point flow displayed on the LCD over the life of the filters. When auto-compensation has reached its maximum capacity and can no longer, counteract the resistance in the filter, the "check filter" alarm will alert you that it is time to replace the filter.

Manually increasing the flow % beyond the established optimal flow set-point will not improve performance because auto-compensation has already maximized power to the blowers to overcome the resistance of the dust load. At this point, manually increasing the flow % will actually decrease the filter life.

CALIBRATION INSTRUCTIONS

1. Hook up the Filtrabox fume extractor to the Laser Engraver, with the supplied hose or with the hose you intend to permanently use for the application. Arrange the laser, Filtrabox and the hoses into their desired locations.

2. Check your device to confirm the number of blowers it has.

    - Micro = 1 blower
    - CompactX = 1 blower
    - Basys = 1 blower
    - ExpandX-1 = 1 blower
    - ExpandX-2 = 2 blowers
    - ExpandX-3 = 3 blowers

3. While on the "**# OF BLOWERS**" screen, select the number of blowers by pressing the up or down arrows accordingly. Confirm your selection by pressing the "**OK**" button. The screen will then prompt to "PRESS OK TO CALIBRATE", press the "**OK**' button to continue.

    ! This will trigger the Calibration process which will take approximately one minute. *If you have selected the wrong number of blowers, the calibration process will fail and the system will have to be rebooted and restarted.*

4. If you have previously set the number of blowers and wish only to Calibrate Filtrabox to a new application, press the "**Menu**" button. Press the right arrow key to advance the screen until you reach the "**New Application Calibration**" section. Press the "**OK**" button to initiate Calibration**.** ***The Calibration process will take approximately one minute.*** *If you have selected the wrong number of blowers, the calibration process will fail and the system will have to be rebooted and the process restarted.*

4-6 SECOND RULE PROCEDURES TO DETERMINE OPTIMAL FLOW %

*Use the "4-6 second rule" to determine adequate evacuation of the laser. The "**Flow %**" setting should be adjusted to the value where you can observe complete evacuation of the fumes within a 4-6 second period from the instant that the laser stops engraving/cutting to the moment you open the lid of the laser enclosure. There should not be any fumes observable when the lid is opened after 4-6 seconds have elapsed.*

*Set your "**FLOW %**" to the lowest possible setting that will adequately evacuate the fumes from your laser. This ensures that you are using your filters to their maximum potential which minimizes costs.*

Start by setting your Filtrabox at 15% and incrementally increase the flow until you achieve full evacuation using the 4-6 second rule.

SETTING THE FLOW % SETTING

1. The Status screen is the first screen shown once the device has finished calibrating or finished booting up. The device will display the current flow setting.
2. Turn on the blower by pressing the "**Power**" button while in the "**MANUAL**" setting.
3. Set the "**Flow %**" to the desired starting point by pressing the "**UP**" or "**Down**" buttons.
4. Start engraving/cutting on the most smoke/odor generating substrate you will typically use.
5. Adjust the "**Flow %**" until you see significant movement of the fumes towards the laser intake vents.
6. Check to see if you have achieved adequate evacuation flow using the 4-6 second rule. Continue adjusting your flow until you are satisfied with the performance. The "**Flow %**" value will be automatically saved to memory.

! The AUTO-COMPENSATION FLOW CONTROL feature, which is standard on the Filtrabox, will maintain the set-point "Flow %" by automatically increasing power to the blowers as the filters get obstructed by the dust. You do not have to manually change the "Airflow %" setting again.