



VST CoffeeTools™ for Mac OSX

Quick Start Guide

Rev B

Comprehensive Measurement and Analysis Tools for the Coffee and Espresso Beverage and Equipment Design Industries



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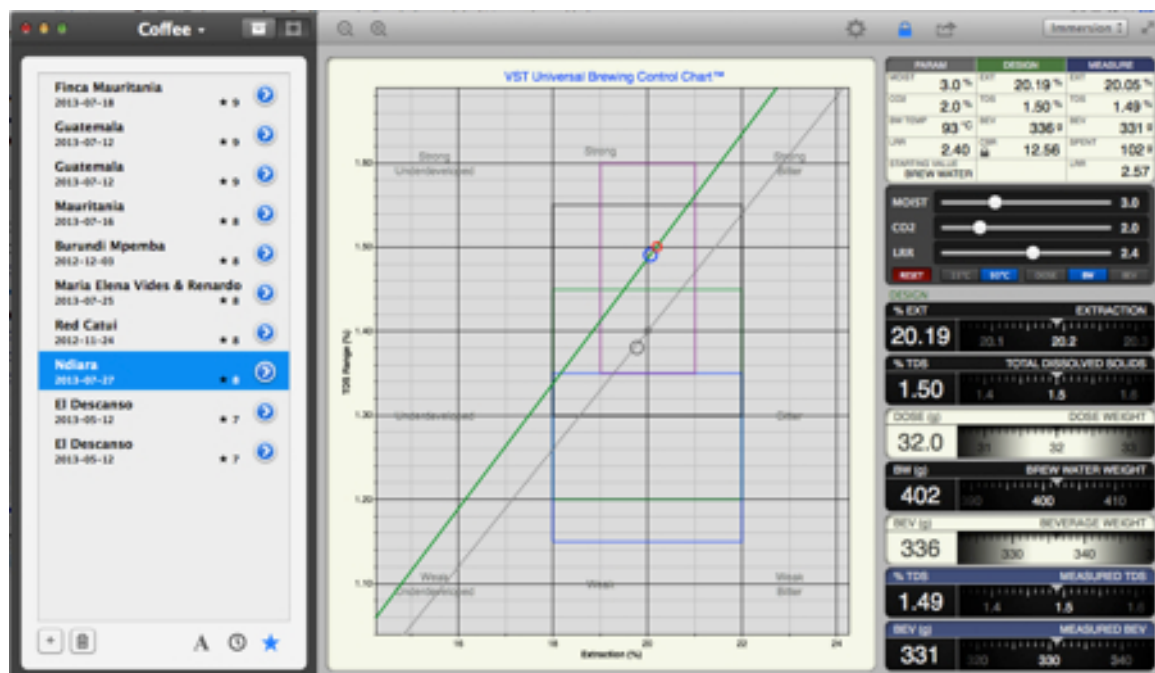
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General notes

VST CoffeeTools™ for Mac OSX is similar to VST CoffeeTools™ for iPad (originally released as MoJoToGo PRO for iPad). Some screen shots are of the iPad version which has minor layout differences related to touchscreen versus keyboard and mouse actions, but functionally is similar or identical.

Introduction

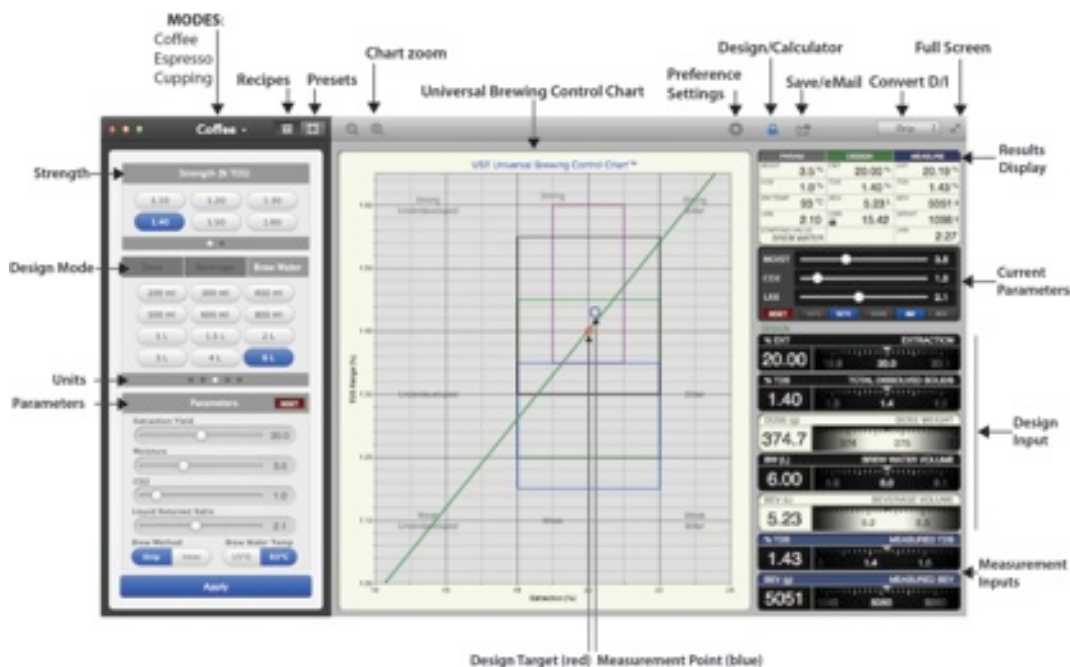
This guide will walk you through some basic functions of VST CoffeeTools. VST CoffeeTools is the latest coffee tools software application from VST. VST CoffeeTools is a 4th generation application that combines the most advanced features of previous applications with new features enabled by direct chart data entry available on a tablet device. This new tool is designed to allow coffee professionals to rapidly design coffee beverages to their chosen parameters in just a few steps. Users may then measure actual observed data to refine, record or communicate their recipes and parameters. VST CoffeeTools seamlessly converts between immersion and drip type brews, between metric and English units of measurement, between volume and mass based units, eliminating common mistakes and allowing the coffee professional to focus on the beverage quality, quickly and effectively.



The Main Screen

The VST CoffeeTools Screen is broken into several functional sections.

- The left top edge includes the Modes drop down menu to allows users to switch between **coffee**, **espresso** and **cupping** modes.
- The Recipe / Presets panels allow users to either design a beverage from common or custom configured presets or to sort, save, delete or recall and load a saved recipe.
- The primary center screen area is dedicated to the VST Universal Brewing Control Chart which dynamically charts designed and measured values for strength and extraction along the brew formula line. This chart can also be used for free-form drag-and-drop beverage design, an extremely fast and easy to use coffee design mode. The VST Universal Brewing Control Chart automatically normalizes extraction yield calculations for all common variables and provides accurate results for all modes, including drip coffee, infusion coffee, cupping and espresso modes.
- Other task bar functions include:
 - Pad Lock to switch from *Design* to *Calculator* modes
 - Zoom in/out for full screen operation
 - Preferences (general and advanced)
 - Action Tool: Save, eMail & Save Recipe and Print functions (under development)
 - Convert a displayed recipe from or to **Drip** and **Immersion** methods

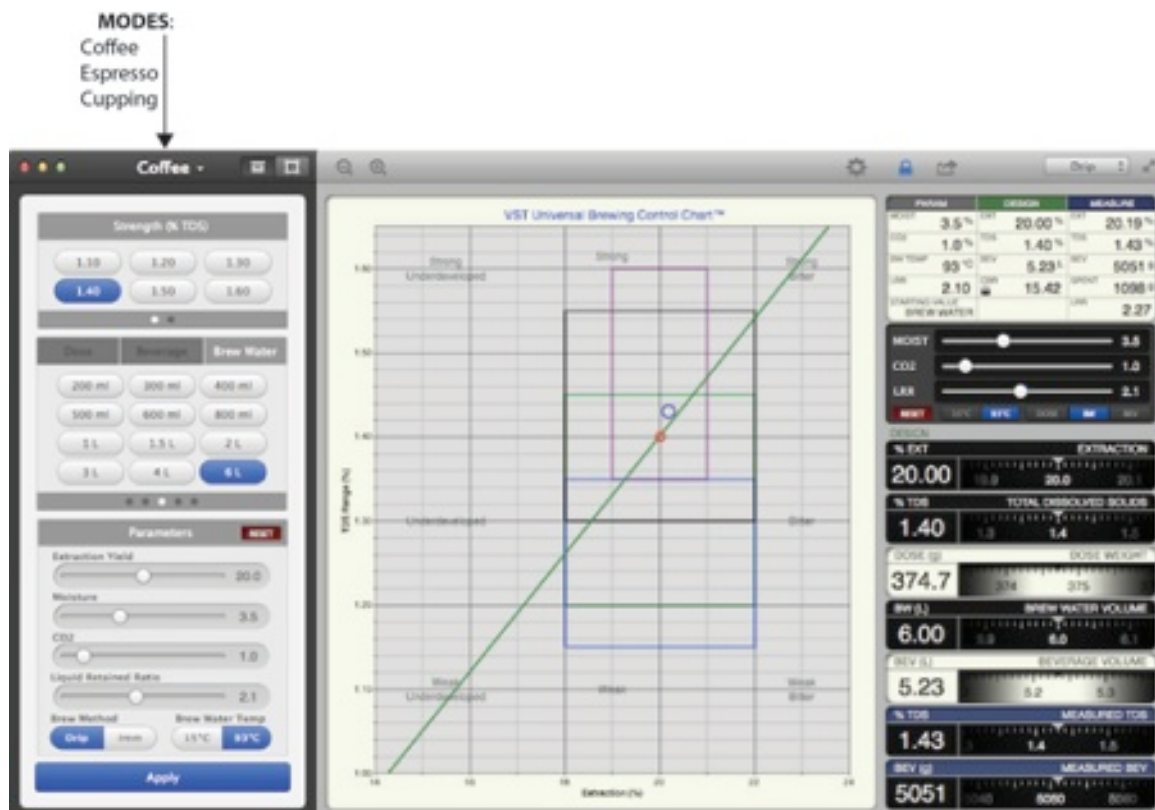


- The **Results Display** at the top right region contains data results, allowing users to view all computed design parameters as well as measured computations and relevant preference values.
- The **Measurement Inputs** highlighted in blue at the bottom right area is reserved for entering the actual measured results: Beverage weight and % TDS.

The **Design Input** area allows target values of brew water, dose and beverage, as well as target TDS and Extraction Yield.

Modes

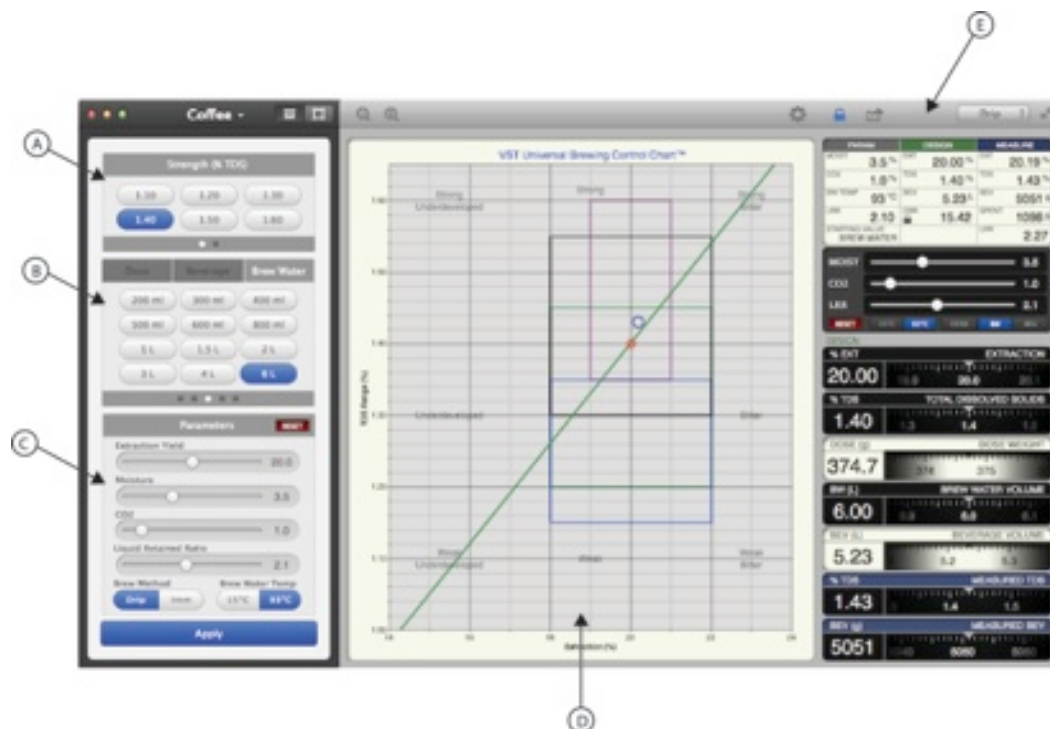
Modes (coffee, espresso and cupping) can be selected from the Modes drop down menu on left - top edge of the main page.



Coffee Mode

Coffee mode is designed to be used with brewed coffee beverages, both drip and immersion brew methods. There are several unique features of this mode, including:

- Strength presets have default values in the range 1.10 to 1.60 (custom presets can also be defined).
- The starting value used can be dry coffee dose (in grams or ounces), beverage size (in any units of volume or weight), or brew water size (in any units of volume or weight), at either ambient/tap or brew temperature.
- Design parameters include preferred strength and extraction yield, beverage yield, brew water and ground coffee amounts, with preferences for ground coffee moisture and CO2 content, liquid retained ratio, drip or immersion method, and brew water temperature (when using volume measurements).
- The Brew Chart range defaults to approximately a 1.00 to 1.65 % strength region, and displays the SCAE, SCAA and NCA preferred regions of interest as well as the taste defect labels. The region of interest may be customized in *general preferences*. Users can drag the red design point and also drag the chart to PAN (re-position the chart), +/- to ZOOM the chart, and double-click to reset PAN & ZOOM.
- The user task bar in coffee mode allows users to switch between drip and immersion types, set preferences, eMail, save and print (under development).



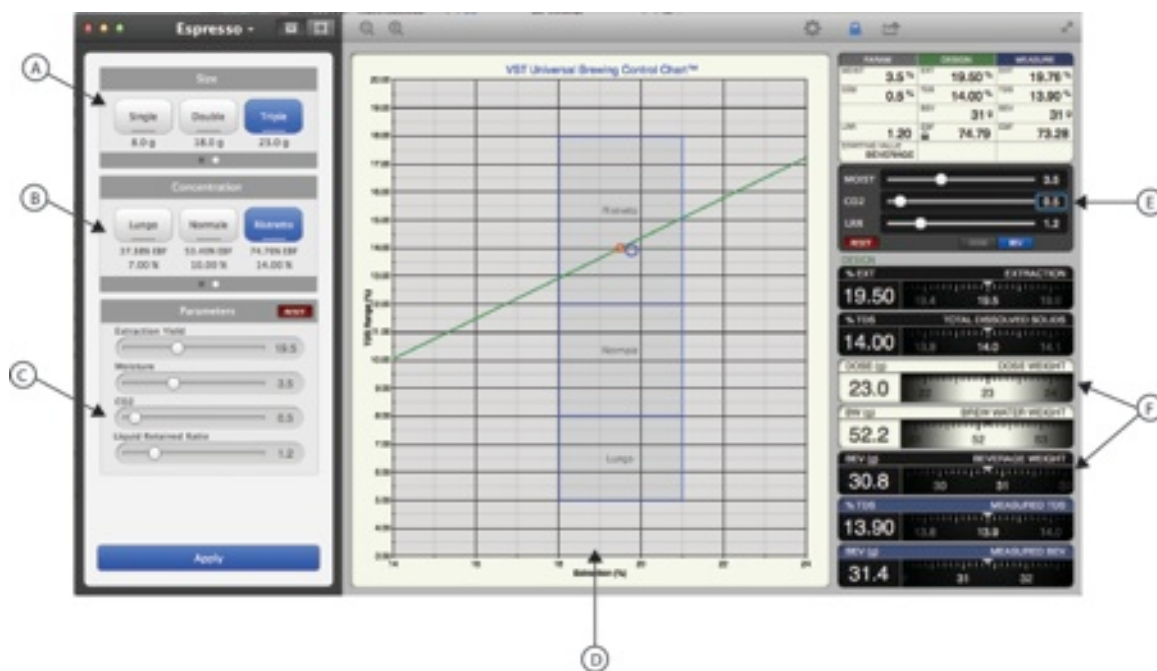
Espresso Mode

Espresso mode is designed to be used with espresso coffee beverages. There are several unique features of this mode, including:

- Dry coffee amount **presets** (Size) default to 7, 14, and 21g doses. These can also be user defined to custom amounts on the 2nd page of **Size** presets.
- The concentration % TDS values default to traditional values. These can also be user defined to custom values on the 2nd page of **Concentration** presets using the custom pages buttons under the panel. Click and hold the underlined value to edit..
- Design parameters include extraction yield, moisture content, CO2 content.
- The Brew Chart Panel defaults to approximately a 3.00 to 20.00 % strength region, and displays the regions of interest for lungo, normale and ristretto concentrations.
- Parameters allow changes to one or more preference variables, moisture, CO2 or LRR, and starting value).

Other notes:

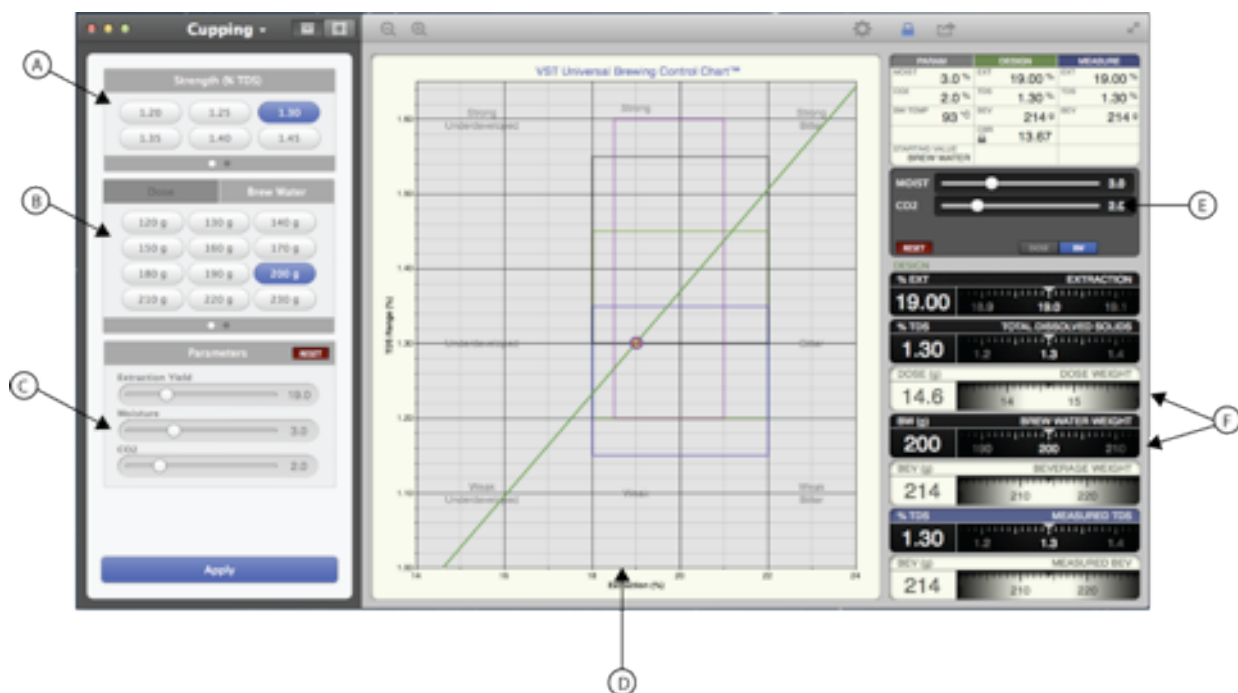
- Dose or Beverage may be changed while maintaining the current TDS and Extraction values by clicking on the Dose or Beverage (displayed amount) in the design input area.



Cupping Mode

Cupping mode is specifically designed to be used with cupping preparations. There are several unique features of this mode, including:

- Strength presets have default values in the range 1.20 to 1.45 (custom presets can also be defined).
- Brew Water or Dose amount shows traditional cupping values. These may be user defined to custom values using the custom pages buttons under the panel. Click and hold the underlined value to edit.
- Design parameters include extraction yield, moisture content, CO2 content, liquid retained ratio.
- The Brew Chart panel defaults to approximately a 1.00 to 1.60 % strength region, and displays the regions of interest selected in global setting for any one or more of SCAA, SCAE, NCA regions, as well as traditional taste defect labels.
- The parameters tool allows changing a single preference, such as CO2 or Moisture, or to change design mode to *Brew Water* or *Dose* amounts.
- The *Dose* or *Brew Water* amount may be changed in the design input panel.

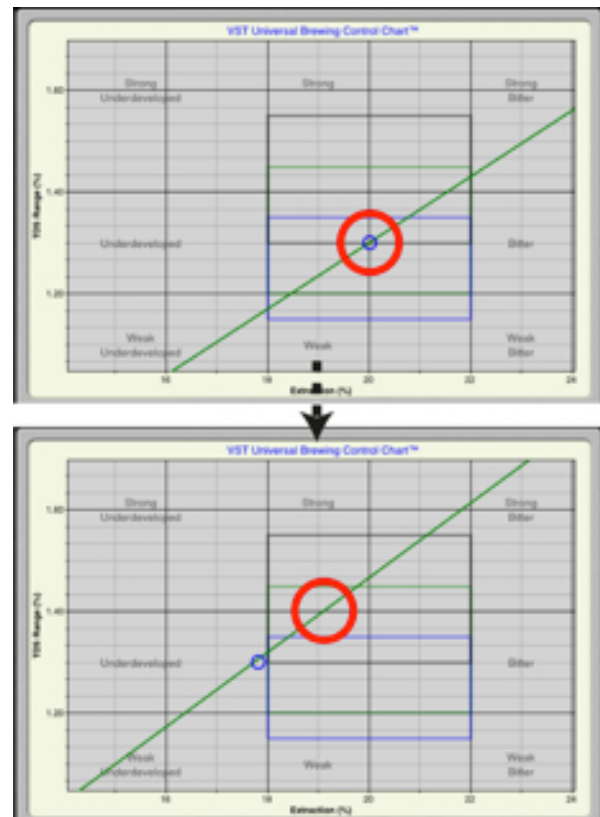


Freeform Design –Simple 2-Step Process

VST CoffeeTools allows design brew parameters to be set entirely using simple drag-and-drop data entry on the VST Universal Brewing Control Chart.

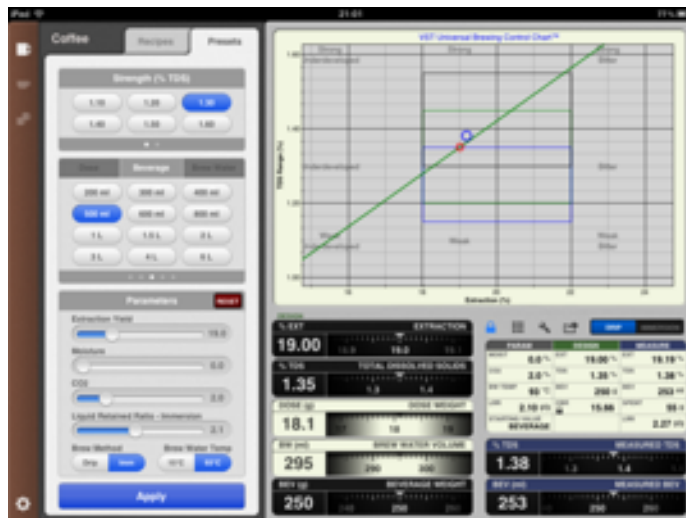
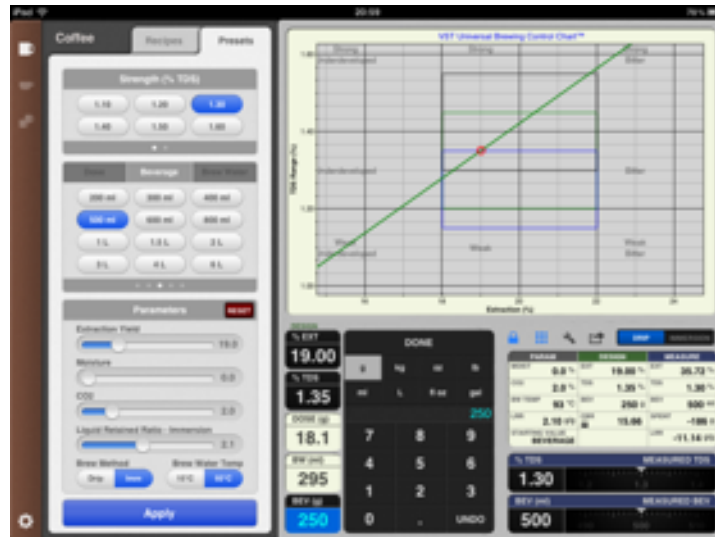
Step One

- First click and hold the red brew design circle. The circle will expand when selected.
- Drag the circle to the desired point on the Universal Brewing Control Chart.
- When you have reached your desired position for strength and extraction, unclick, and the circle will snap into space at your selected point.
- Note: If Snap To Grid is turned **on** in the **General Preferences** menu, then the circle will be moved in increments of 0.05% TDS and 0.1% for Extraction Yield.
- Brew parameter values will be dynamically computed on the user dashboard as the brew design circle is moved.



Step Two

- Click the Beverage amount to enable the keypad. Select *Set to Starting Value*.
- Select the units and then the amount of Beverage (or Brew Water or ground coffee Dose) you wish to use.
- VST CoffeeTools does all the rest, displaying results in the display dashboard.

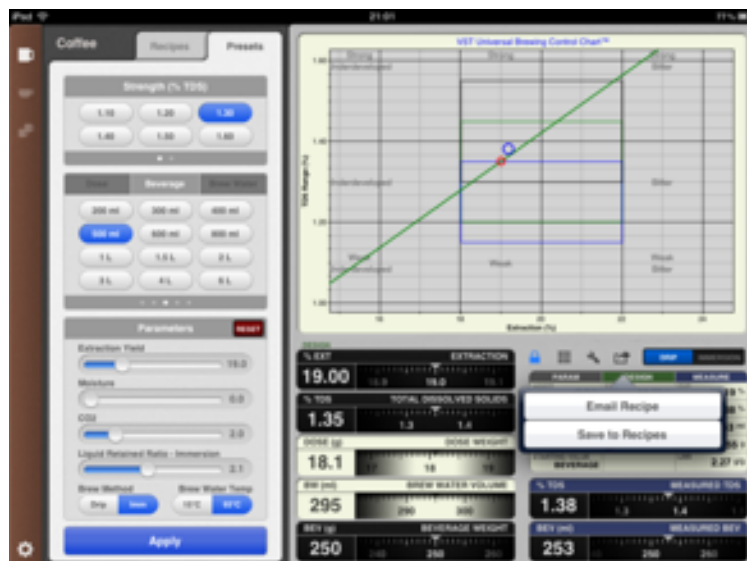


Add Measurements:

•After brewing, measurement data may be added by entering measured TDS and final Beverage weight to display actual results, which are then plotted on the same chart, displayed as a blue circle.

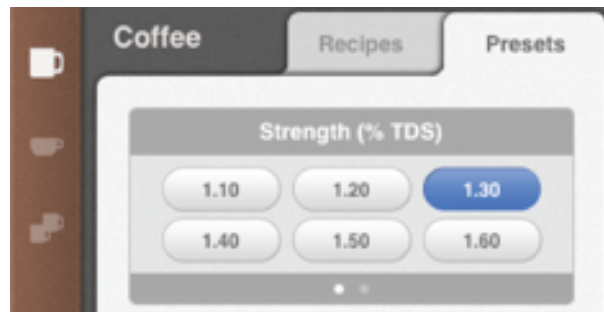
•Save and provide additional detail to this recipe by selecting the Action

Button: Save Recipe.



Design By Using Presets

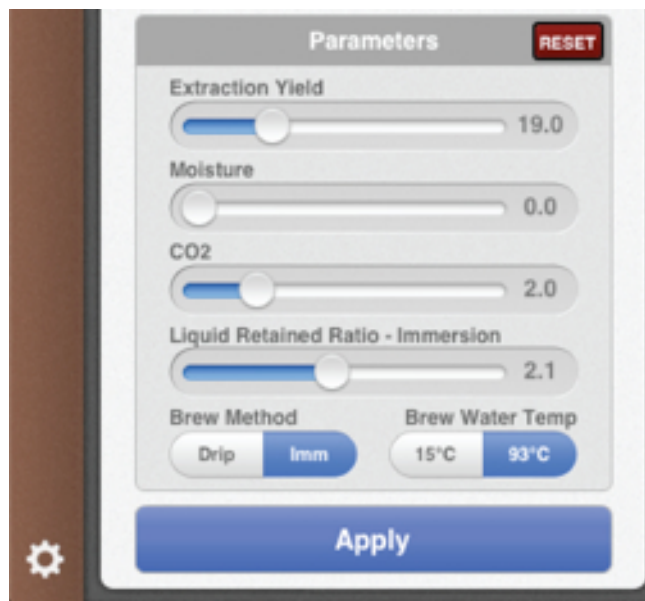
Click the desired strength



Click the desired Beverage, Brew Water or Dose amount. Both metric and English units of volume or weight are available in the page selection buttons in the bottom banner.

Check Preset Parameters to verify Ext Yield, Moisture and CO₂, LRR, Brew Method and BW temp (if using BW in volume).

Click the **Apply** button to execute. The required coffee recipe is displayed, and all related results appear in the dashboard panel.



Custom Presets

To select custom values for presets within Coffee, Espresso or Cupping modes, the following procedure applies.

Customizable presets are shown in page buttons with underlined labels. In this example we will set a preset of 13.5g Coffee Dose in Coffee Mode.

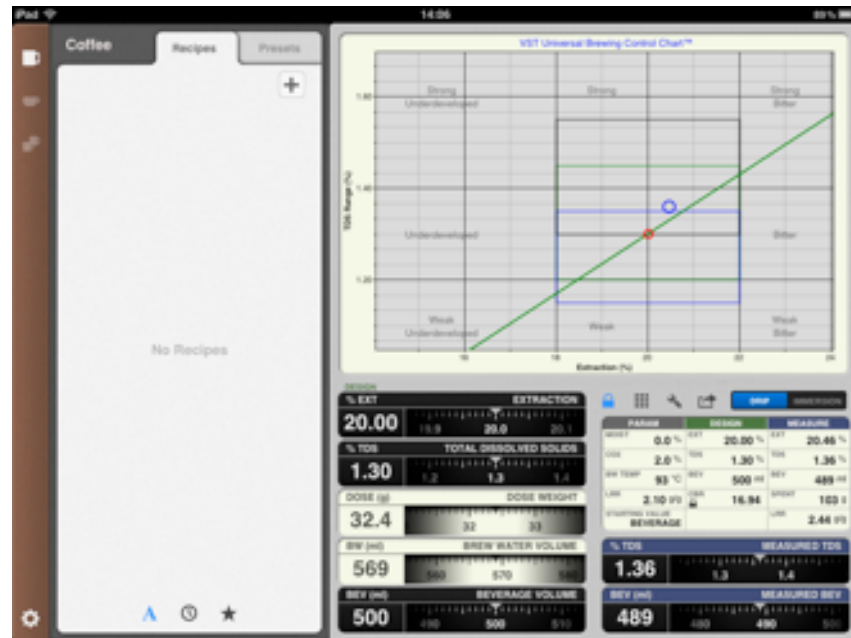
- In Presets select “Dose” as your starting parameter. You will notice four dots along the bottom of this input panel. These indicate groups or pages of presets that are available. By clicking the page options (small circles under the buttons) you can move between available units of presets.
- By clicking the rightmost group of presets you can find the customizable preset buttons. These are denoted customizable by the solid horizontal bar beneath the value.
- To edit one of these presets buttons, click and hold the button until a keypad appears.
- Choose your desired units (in this case grams) and key in your desired value (13.5). Click anywhere outside of the keypad to close the keypad.



Recipes

Save Recipe

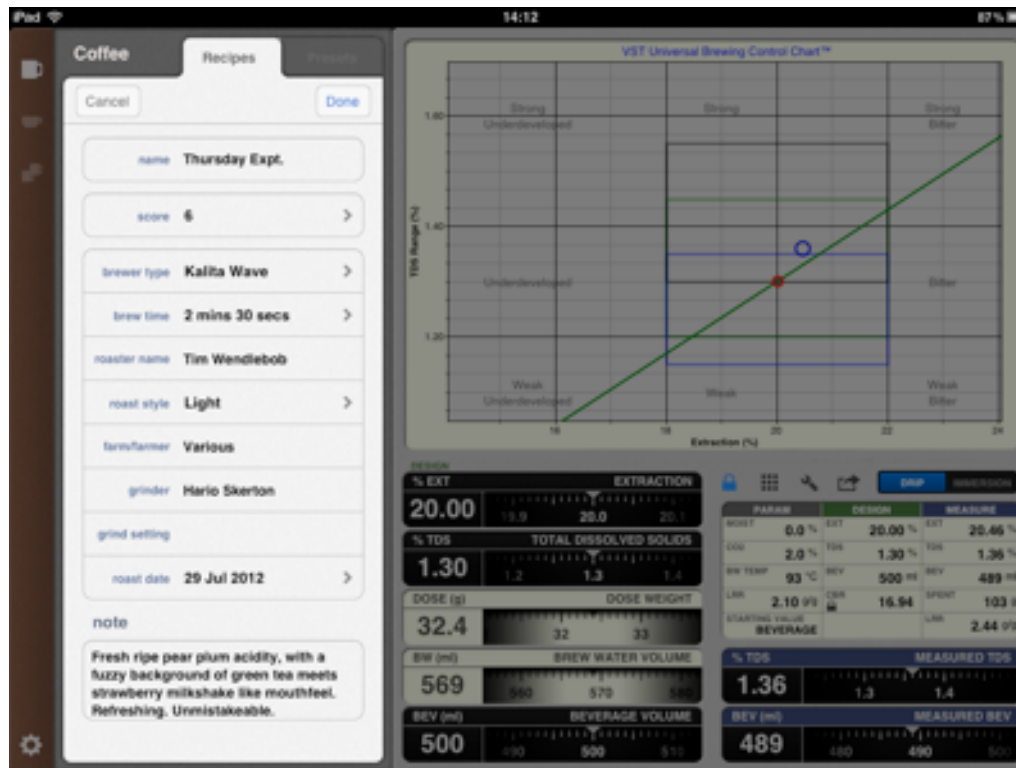
Once you have completed your measurements and input your values for actual TDS and actual measured Beverage, you can choose to record these values with additional details as a Recipe for future replication, comparison or communication. To do so, select the "Recipes" in the Recipe/Presets pane.



In order to create a new recipe press the "+" symbol. This will open a blank recipe form of the currently displayed and charted values and will allow the user to enter detail values. Note: espresso mode contains unique variables specific to espresso brewing (for example, pressure, and preinfusion).

Recipe name is the only required field, other fields are optional depending on your requirements. (note VST CoffeeTools™ for iPad screenshots shown).



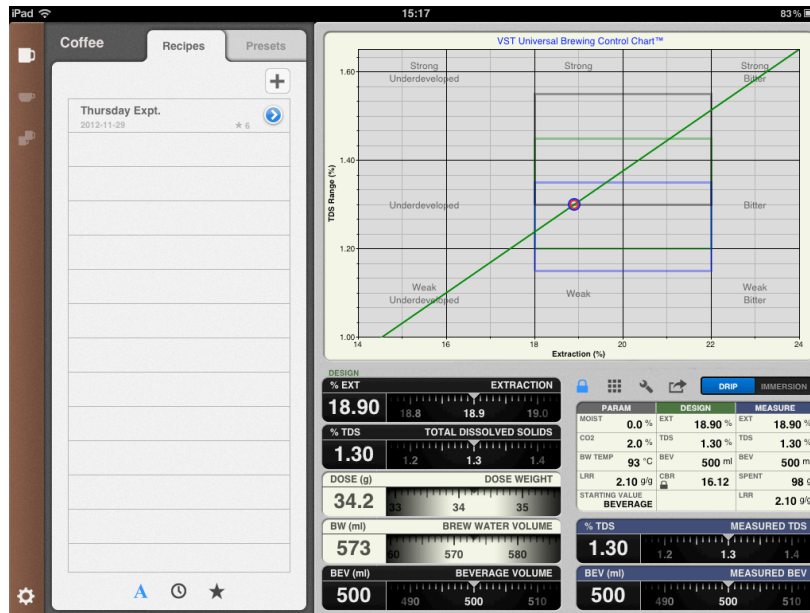


Once complete click "Done" to save the recipe. Clicking "Back" will return you to the list of recipes.

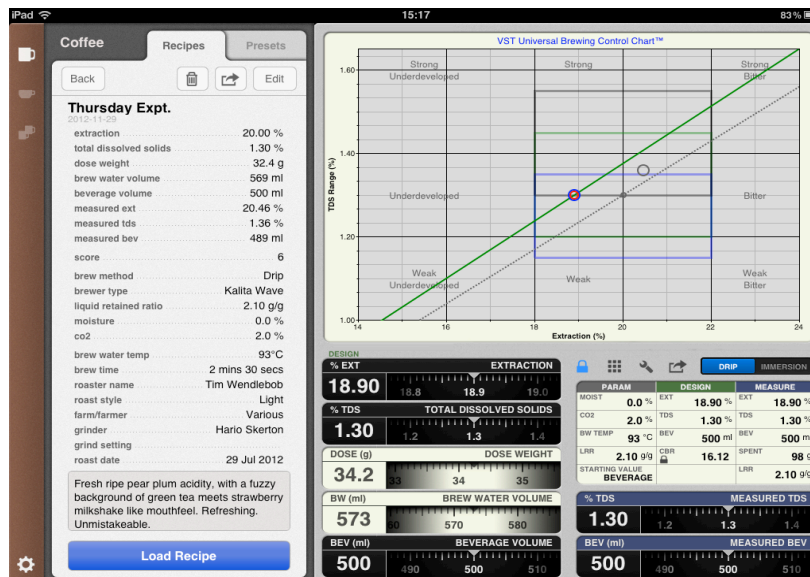


Load Recipe

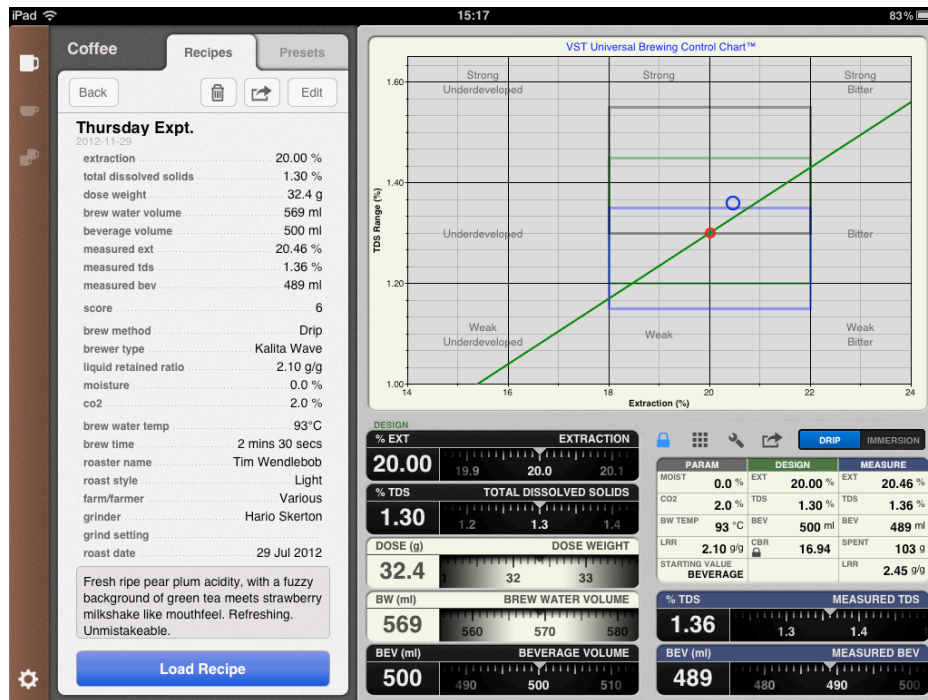
To display a previously saved recipe click the "Recipes" tab or button on the Recipes/Presets panel. This will display a list of saved recipes. Click the recipe **name** to plot the brew formula line (in gray) for that recipe. Click again to remove the plot. Click the blue ">" button to display the recipe details.



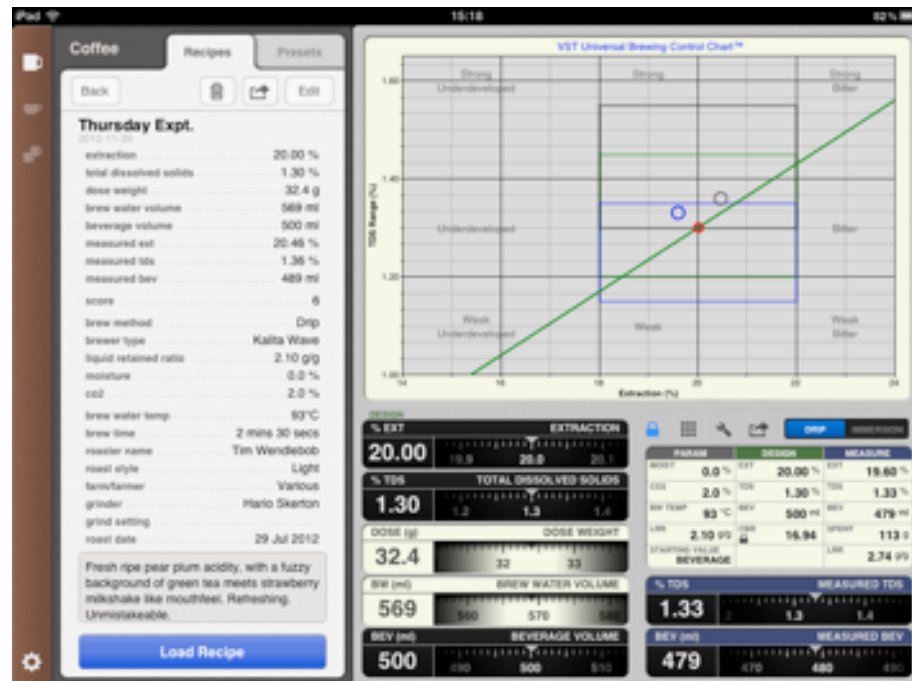
When a previously saved recipe is displayed, its grey brew formula line appears on the universal brewing control chart representing the brew recipe, as well as the design and measurement values (gray circles). These will not affect the currently set brew parameters, and are provided as a reference for comparison.



To load the selected and displayed recipe click the “Load Recipe” button, and the brew parameters will snap to the original design values of the recipe, and computed values will be updated in the dashboard panel.



The greyed out design and measured circles will still persist and can be used to compare the recipe with subsequent design changes.



Sharing and Printing

The “action” button shows **eMail**, **Save** and **Print** functions (some versions may not include Print)

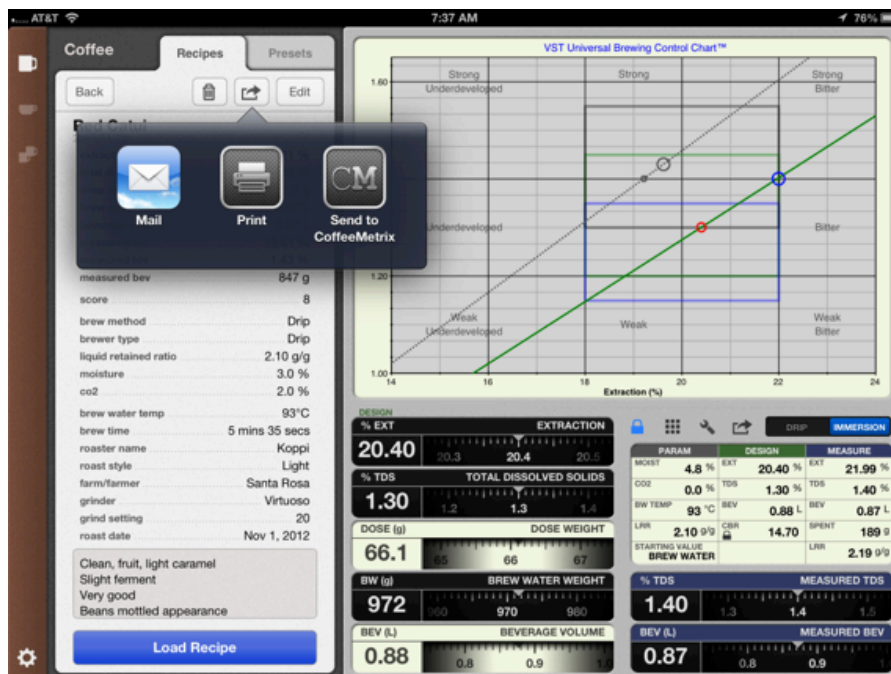
The Mail will send the currently displayed results display in abbreviated format (without details) directly to your eMail client, with access to your normal contacts list. No record will be saved. The recipient can load the receipt, measurements on any VST CoffeeTools iPad, Mac OSX or iPhone App version by clicking on the embedded link within the eMail.



Saving and Sharing Data Detailed Data

To **save** into your database list, select **Save (+)**. A new record of the currently displayed results and measurements will be created, along with fields for additional information, such as roast date, taste score, brewer type, brew time, farm/farmer,

grinder, grind setting and notes. Saved recipes may also be shared via eMail directly from the saved details page, as a complete record with details.



Brew Method

In Coffee Mode the brewing method can fall into two parent categories, Immersion or Drip.

Examples of Drip Methods include:

- Drip and Auto Drip brewers, most home and commercial models
- Commercial bypass brewers
- Pour over brewers such as
 - Hario
 - Clever Dripper – when used with pre-infusion followed by drip
 - Chemex
 - Melitta
 - Kalita~Wave

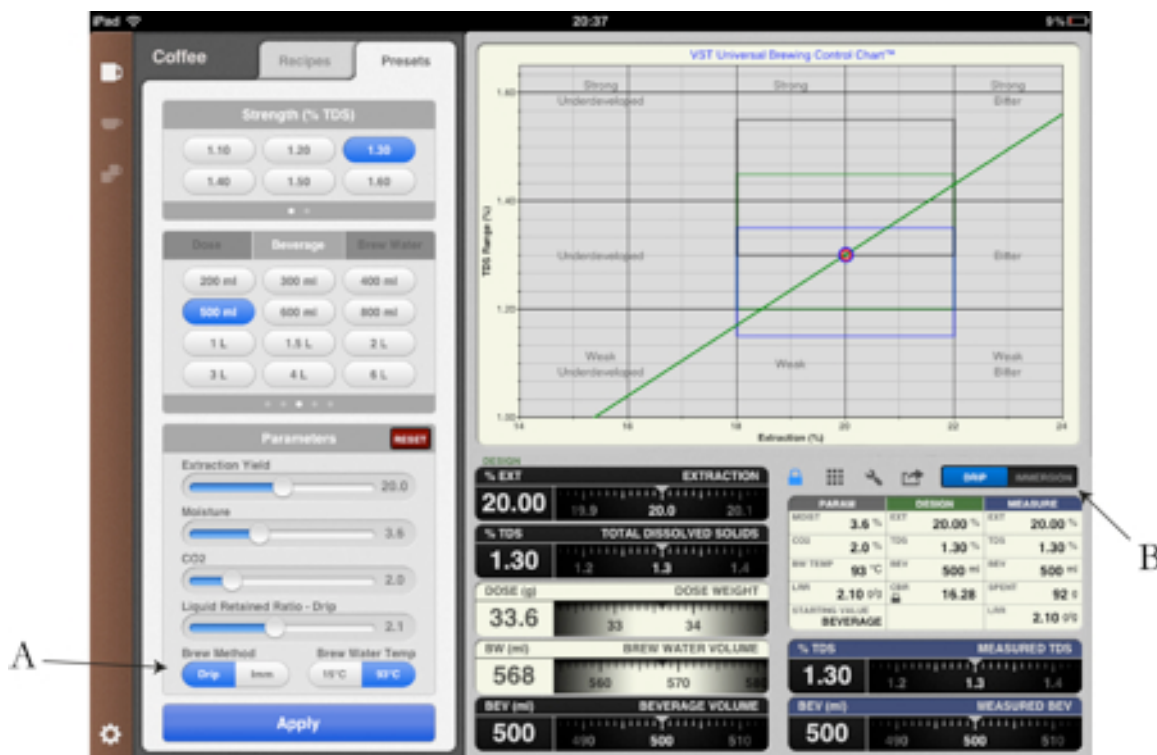
Examples of Infusion, Steeping & Immersion Methods include:

- Vac Pot
- Clever Dripper – when used as immersion only
- Trifecta (both commercial and home models)
- French Press (or any Press Pot)
- Aero Press
- Clover
- Bkon
- Eva Solo
- Cupping

For a given design, the required coffee to water ratio using either an Immersion or Drip brew method will vary greatly. VST CoffeeTools can dynamically change a recipe to use Immersion or Drip parameters. This can be done in two locations:

- A. In the presets pane, under parameters, select “Drip” or “Imm” and click Apply. Depending on your starting parameter Dose, Beverage, or Brew Water the other values will automatically change.

- B. In the user dashboard, at the top right corner, pressing “Drip” or “Immersion” will immediately change the values to match the brew method.



Notes:

Compared to infusion methods, the drip method is inherently more efficient, requiring approximately 16-18% less ground coffee to produce the same beverage amount at comparable strength and extraction levels. Drip methods require careful attention to uniformly wetting and extracting from the entire bed of ground coffee. Some brewers do this better than others.

Immersion or infusion/steeping processes are primarily limited to single-cup sizes and offer inherently more uniform extraction from the ground coffee, while requiring more ground coffee for a given beverage amount, strength and extraction yield. Different infusion methods retain different levels of retained liquid in the spent grounds. Enter the final beverage weight to determine the liquid retained [ratio] for a particular method, and reset the preferences for that method to achieve more accurate target beverage calculations.

CO2 and Moisture together can account for 3.5-5.0% of the ground coffee weight. Preferences are set for typical levels assuming fresh roasted coffee consumed within 21-days of roast, and are set separately for typical levels in each mode, and may be adjusted separately for each mode.