

Dear Customer,

Congratulations with your new Duofiller!

In order to make the most out of your filler, it is important that you read and follow these instructions carefully.

Safety

Although Duofiller can withstand a little water splash on the front, water splashes from any angle can penetrate and cause damage to the machine and in the worst case short circuit and damage to persons or property.

Duofiller is used with liquid under pressure. Always inspect hose and connections for damage before use. It's important to use original connections only to prevent leakage or loosening. Never pressurize the Duofiller with liquid pressure more than 4 bar (60 psi) and/or liquid temperature over 60-degree C. Always perform a pressure test with clean, cold water prior to each use.

It can be life-threatening or can cause serious damage to health or property to open, modify, repair or otherwise interfere with the Duofiller power supply unit. Never use the power supply unit if it or its cables are visibly damaged, exposed to moisture or show other signs of damage or of being defective. Always inspect the power supply unit and its cables for damage before use.

Assembly

Duofiller should be mounted on the wall. You may want to mount the Duofiller over a bench so that you can place a drip tray underneath. You need 2 screws spaced 130mm c/c in the wall. If you want another solution than wall mounting, the Duofiller supports the VESA 100 standard normally used

Connection

for monitors.

1. The CO2 connection is the middle connection, it must be connected to CO2 with pressure of 0-0.2 bar for purge gas. Adjust the CO2 pressure low. The lower the better. You want the purge gas to slowly and gentle purge out the can without any turbulence.

PLEASE NOTE: Higher pressure than 0.2 bar may damage the fillsensors and it will also cause leakage of CO2 through the purge valves.

- Assemble the beer hose. The thin hoses should be connected to the splitter at one end and the right and left couplings at the bottom of the filler at the other end. <u>The filter should always be used</u>, as this will prevent particles to get stuck in the internal valves and which again may cause the valve from closing properly. The filter is inserted after ball lock quick coupling so that the order is: Ball lock - 5/16 " hose to 1/4 " MFL - filter - splitter - double thin hose - Duofiller. The filter has a direction arrow. Keep the filter outlet high so that air/CO2 will always escape the filter.
- 3. When the hoses are connected, connect a keg with water or Starsan for sanitizing and programming.
- 4. Connect the power supply. The right and left buttons will blink green. Afterwards it's started up and ready.

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Fill level programming

The first thing to do when connected for the first time is to set the fill level. You start by holding down the right or left button for 2-3 seconds and release. Both buttons should light blue. That means it's set to manual / programming mode. In programming mode, it will only stop filling if pressing the button on the respective side it's filling. Put a can under each filler and start filling by pressing the respective button on the left or right side. The CO2 valve will open first to purge the can, the CO2 valve closes after purging and the beer valve opens. When the desired filling level is reached, stop filling by pressing the button. Filling stops and lamp glows green. This means that the fill level is now stored and that it will automatically stop at the same level when it's in auto. Do the same for the opposite fill head since the fill level must be stored individually for each filler. Return to auto by holding down one of the buttons for 2-3 seconds and release. The lights should now go out. Start a filling and it should now stop at the same level as it was stopped in manual.

Filling can be canceled at any time by pressing the button while filling is in progress. If you cancel while in programming mode, if it has detected an increase in the box by more than 1 cm, it will save it as a new fill level and the lamp will light green. If it has not registered an increase of more than 1 cm, the filling level is not stored and the lamp will light red.

The filling level is stored in hard memory, ie it will be saved until a new filling level is stored.

One way of fine-tuning the filling level is to loosen the filler tube clamp and adjust the height of the CO2 tube. Up to increase the fill level or down to lower it. The filling level is then raised / lowered to the same height as the height of the CO2 tube was adjusted. The CO2 tube is the closest to the center, ie the right tube on the left and the left tube on the right.

Purge time programming

Purge time can be adjusted between 0 and 10 seconds. It is preset at 6 seconds which is recommended for carbonated beer. Purge time is adjusted by holding down one of the buttons for 6-7 seconds and release. The lamps now glow red. Press one of the buttons to increase purge time by 1 second. Press forward one and one seconds. When it reaches 10 seconds, it jumps back to 0 seconds, and when it is at 0 seconds, the lights are blue. Press once and one second again until both lamps light green, then the purge time is 5 seconds. One tap then it is 6 seconds. Saving is done by holding down one of the buttons for 6-7 seconds, release and the lights should go out. The purge time is now stored and will be the same until new purge time is saved. It is recommended to always use at least 1 second of purge time, this is to avoid getting liquid into the CO2 tube which can give a faulty measurement of the liquid level in the can

Filling with beer

First, make sure the beer is cold (4 degrees or colder) and that it is fully carbonated and has been at stable pressure and temperature for at least a week. This is because if the carbonation is in imbalance there is a much higher chance that you will have encounter excessive foaming.

For normally carbonated beers with refrigerator temperature (4C or lower) and stable pressure, there should normally be no foam problems.

It is always best to use the pressure already in the keg to fill pressure, i.e. <u>do not change the pressure prior to</u> <u>filling</u>. If it foams too much it helps to cool the beer down more. It may also be helpful to increase the pressure in the keg. <u>Lowering the fill pressure is not recommended as it will usually make foaming worse</u>.



It is recommended to always put the can lid on foam to keep oxygen out of the can when the lid is pressed down. Seal the lid immediately. Done this way, even NEIPA will remain unoxidized for 1 year ++.

Always ensure that the beer in the keg is clear and that particles have properly settled and always check that the beer is clear by draining the initial deciliters before connecting the Duofiller. If you encounter that the filling speed is reduced while filling, this may be a sign of a clogged filter. Disconnect the hose from the keg, depressurize the hose and open the filter for inspection and possible cleaning. Please note that the filter is <u>not</u> <u>designed to filter out a lot of particles</u>, it should only stop individual particles that can get stuck in the valves inside the Duofiller. If the filter is clogged with hops or yeast particles, you must let the beer settle before filling continues. A clogged filter can cause the cartridge to collapse <u>and this is not covered by the warranty</u>.

After use

Run through warm water with a little detergent to flush out any leftover beer. Absolute maximum temperature is 60 degrees. Wash / wipe the filler with a cloth. Drain the beer hoses after use. A good practice is to empty the beer hose with the use of CO2. Change the quick disconnect on the beer hose with a grey CO2 type and connect it to the "Gas OUT" post on the keg and start a filling to displace the liquid in the tube with CO2. Disconnect the filter, take out the filter cartridge and flush it. The filter house and the cartridge are dishwasher safe.

Before next use, it is recommended to flush through a few liters of Starsan solution for sanitizing.

Troubleshooting

If you find that there may be something wrong with the filler, contact us by phone, e-mail or the website. Often, simple problems can be solved with a little support or new parts may be needed.

If there is something wrong, the lamps in the switches can provide good information. Feel free to take a video of the problem before contacting us.

Examples of errors that may occur:

No light on startup:

- Check if power supply is ok

The can overflows:

- If there is red light in the switch when it overflows please do a new calibration.

No purging before filling:

- If no blue light in the lamp: Purge time is set to 0 second, reprogram purge time.
- If blue light in the lamp: Check CO2 pressure or CO2 bottle is closed / empty.

Foaming

Normally foaming is not an issue but there are a few general rules to follow to ensure a good result.

1. Carbonation level is important. Know your carbonation level and ensure that carbonation process is finished before filling is attempted. Stable keg pressure and temperature for the last 7 days is

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normally required. If you use quick-carbonation methods please let the beer sit several days to stabilize before filling.

- 2. Keg temperature is key. The keg must be cold, 4C or lower
- 3. Keg pressure matters. Do not change keg pressure prior to filling and never lower the keg pressure below carbonation pressure. Lowering the pressure will lead to foaming. Keg pressure can be increased to increase fill speed. However always verify filling at initial keg pressure before it's increased. If you have lowered the keg pressure normally you have to increase pressure to the original pressure and let it sit a day or two to stabilise.
- 4. It is normal to observe foam in the tubes on top of the Duofiller. It is <u>not normal</u> to have foam in the clear tube downstream the filter. If there is, please check your carbonation level (is it over-carbonated?), temperature and pressure. Foaming downstream the filter may be a sign of over-carbonation, too warm keg or too low pressure in the keg. Try to increase the keg pressure to check if the foaming is reduced. If not, try to decrease keg temperature after the recipe below.

If you follow these guidelines and still have excessive foaming you can try to further cool your keg. Disconnect the CO2 from the keg and lower temperature further. It's important to disconnect CO2 to not increase carbonation level while cooling. Keg pressure will decrease when the keg temperature is lowered and remember to adjust CO2 pressure lower when you are ready to fill. Start low and increase CO2 pressure gentle until you can hear CO2 entering the keg. You have now found the keg pressure and are ready to start filling.

Sometimes it's desired to increase foaming level to get a proper foam cap for the lid. First try to increase fill pressure. If foam level is still too low keg temperature can be increased. Remember to increase CO2 pressure prior to filling since higher temperature will lead to higher pressure in the keg.