Oxygen Flow Regulator

Operation, Assembly & Maintenance Manual

Congratulations on your purchase, and thank you for selecting the oxygen flow regulator from Blichmann Engineering. We are confident that it will provide you years of service and many gallons of outstanding beer. This manual will familiarize you with the assembly, installation procedures, and use of this product.

****** PLEASE READ THOROUGHLY PRIOR TO USE FOR IMPORTANT SAFETY INFORMATION ******

IMPORTANT !!

Danger: Sections labeled "Danger" are critical to follow and understand to reduce risk of serious injury or death. Please read these thoroughly and understand them completely before use. If you do not understand them or have any questions, contact your retailer or Blichmann Engineering (www.BlichmannEngineering.com) before use. Do NOT at ANY time operate the product until you have thoroughly read and understood these instructions!

Warning: Sections labeled "Warning" can lead to serious injury if not followed. Please read these thoroughly and understand them completely before use. If you do not understand them or have any questions, contact your retailer or Blichmann Engineering (www.BlichmannEngineering.com) before use.

Caution: Sections labeled "Caution" can lead to equipment damage or unsatisfactory performance of the equipment. Please read these sections thoroughly. If you have any questions, contact your retailer or Blichmann Engineering (www.BlichmannEngineering.com) before use.







Overview:

Unlike most regulators that maintain a set PRESSURE of oxygen, this product maintains a set FLOW of oxygen to provide a more consistent level of dissolved oxygen in your beer. No matter what your downstream pressure or sintered stone restriction this regulator will always put out a consistent flow of oxygen. The desired level of oxygenation for proper yeast health is 8-10 PPM of dissolved oxygen (DO). This product is intended to be used with commercial oxygen tanks and are available at your local welding gas supply house. **Select a tank with a CGA 540 connection.** A single small tank of oxygen will last several years – a significant cost savings over the disposable oxygen welding tanks available at your hardware store.

Assembly:

Ensure that the oxygen tank valve is firmly in the CLOSED position in Fig. 1. Turn the black knob on the end of the regulator so that it reads -0-, signifying it is in the off position. The number on the knob reads in Liters Per Minute (LPM). Connect the regulator to the tank using an adjustable wrench and tighten firmly as shown in Fig. 2. Referring to Fig. 3, install the gas outlet hose with ¼" flare connection (hose not included) by using a 12mm wrench on the outlet fitting on the regulator and a 9/16" wrench on the hose and tighten the fitting.

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For replacement parts visit blichmannengineering.com/genuine-replacement-parts

CAUTION – take care not to twist the fitting on the regulator or the fitting may be permanently damaged. This is not a warrantable failure.

Operation:

DANGER: Oxygen is inherently dangerous as it can cause flammable materials to ignite.
NEVER use oxygen near any open flames and remove all flammable materials from the area.
NEVER use this device for anything other than oxygenation of beer wort.
NEVER use the regulator as the sole shutoff for the tank!
ALWAYS turn the oxygen tank AND regulator OFF when not in use.


Fig. 4

Connect the outlet end of the regulator hose (not included) to a sintered aeration stone (not included). We highly recommend the Blichmann Engineering in-line oxygenation system as shown in Fig. 4, or the ANVIL oxygenation wand in Fig. 5. These stones are more porous and can be easily penetrated by sanitizer. While the performance of a coarser stone is slightly lower than the ultra-fine stone the durability and ease of sanitizing is worth the cost of a little more oxygen. Ultra-fine stones (0.5-2 micron) are fragile, and must not be handled with bare fingers as the oil from your skin will plug them. And since sanitizer cannot easily penetrate them, they should be boiled for proper sanitizing.

Sanitize the stone per the manufacturers' recommendation. For the ANVIL O2 wand and the Blichmann Engineering in-line oxygenation stone simply soak in your favorite non-chlorine sanitizer. We recommend Star San from Five Star Chemical. Then place in the fermentor (wands) or in the wort flow (in-line) as required. To start the flow of oxygen simply turn the black knob until you reach your desired level of flow in Fig. 1. The knob indicated liters per minute (LPM) of oxygen.

The goal is to achieve 8-10 PPM of dissolved oxygen in your wort to provide for good yeast cell growth and health. It is highly recommended that you use a dissolved oxygen meter to confirm your oxygen levels. Although these meters are fairly expensive ($150-250). The recommendations below are guidelines only, as your results may be different.


Fig. 5

ANVIL™ O_2 Wand setting recommendation: 1 LPM per 5.5 gal of wort, stirring for 1.5 min. For 10 gal batches increase the time to 2 min at 1 LPM.

Blichmann Engineering™ Inline Oxygenator setting recommendation: 0.5 LPM at 1 GPM of wort flow and 0.75 LPM at 2 GPM of wort flow. Ensure you have a hose long enough (about 6-8 ft) to allow enough contact time for the oxygen to dissolve. It is normal for some large bubbles to pass through the hose.

Blichmann Engineering Product Warranty

A. Limited Warranty

1. Blichmann Engineering warrants to the original purchaser that this product will be free from manufacturing defects in material and workmanship for a period of one (1) year from the date of purchase by the customer. Proof of purchase is required. Blichmann Engineering's obligation to repair or replace defective materials or workmanship is the sole obligation of Blichmann Engineering under this limited warranty.
2. This product is for home use only. The limited warranty covers only those defects that arise as a result of normal use of the product and does not cover any other problems, including, but not limited to, those that arise as a result of:
   a. Improper maintenance or modification;
   b. Damage due to incorrect voltage or improper wiring by customer;
   c. Operation outside of the product's specifications;
   d. Carelessness or neglect to operate the product in accordance with instructions provided with the product;
   e. Damaging the tamper label on the product;
   f. Damage by over-tightening the fasteners;
   g. Failure to follow cleaning and / or maintenance procedures; or
   h. Exceeding published operational temperatures.
3. Blichmann Engineering reserves the right to request delivery of the defective component for inspection before processing the warranty claim. If Blichmann Engineering receives, during the applicable warranty period, notice of a defect in any component that is covered by the warranty, Blichmann Engineering shall either repair or replace the defective component with a new or rebuilt component at Blichmann Engineering's option.
4. Blichmann Engineering must be notified within seven (7) days of the delivery date of any shipping damage. Customer is responsible for shipping damage outside of this time period. Approval for return must be provided by Blichmann Engineering prior to any return. Customer is responsible for keeping all original packaging material for warranty returns. Blichmann Engineering is not responsible for damage from improperly packaged warranty returns, and these repair costs will be the sole responsibility of the customer. Shipping costs for warrantee returns are covered only for the contiguous United States.
5. Blichmann Engineering's limited warranty is valid in any country where the product is distributed.

B. Limitations of Warranty

1. Any implied warranty that is found to arise by way of state or federal law, including any implied warranty of merchantability or any implied warranty of fitness, is limited in duration to the terms of this limited warranty and is limited in scope of coverage to this warranty. Blichmann Engineering disclaims any express or implied warranty, including any implied warranty of fitness for a particular purpose or merchantability, on items excluded from coverage as set forth in this limited warranty.
2. Blichmann Engineering makes no warranty of any nature beyond that contained in this limited warranty. No one has authority to enlarge, amend, or modify this limited warranty, and Blichmann Engineering does not authorize anyone to create any other obligation for it regarding this product.
3. Blichmann Engineering is not responsible for any representation, promise, or warranty made by any independent dealer or other person beyond what is expressly stated in this limited warranty. Any selling or servicing dealer is not Blichmann Engineering's agent, but an independent entity.

C. Limitations of Liability

1. The remedies provided in this warranty are the customer's sole and exclusive remedies.
2. Except for the obligations specifically set forth in this warranty, in no event shall Blichmann Engineering be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether or not advised of the possibility of such damages.
3. This warranty does not cover, and in no event shall Blichmann Engineering be liable for, travel, lodging, or any other expense incurred due to manufacturing defects in material and workmanship, or any other reason.
4. Any performance of repairs after the warranty coverage period has expired or performance of repairs regarding anything excluded from coverage after this limited warranty shall be considered good-will repairs and they will not alter the terms of this limited warranty, or extend any warranty coverage period.
5. Venue for any legal proceedings relating to or arising out of this warranty shall be in Tippecanoe County, Indiana, United States, which courts will have exclusive jurisdiction.

D. Local Law

1. This warranty gives the customer specific legal rights. The customer may also have other rights that vary from state to state in the United States or other countries.
2. To the extent that this warranty is inconsistent with local law, it shall be deemed modified, only to the extent necessary to be consistent with such local law.

This product uses FDA and/or NSF approved food grade materials anywhere the product touches the beverage.

Warning: This product contains or may contain chemical(s) known to the State of California to cause cancer, birth defects, or other reproductive harm.