KEG WASHER

INSTRUCTION MANUAL

PBE5001-MB

Important Safety Information

Please read this entire instruction manual for important safety information before using your Keg Washer.

⚠WARNING Failure to follow these warnings could result in serious injury or death.

High-Pressure Hazard:

- *Keg washers operate under high pressure, posing a risk of injury from bursting or improperly handled hoses. Always check the integrity of hoses and connections before use.*

Chemical Exposure:

- *The use of cleaning and sanitizing chemicals can pose a risk. It's essential to understand and follow proper handling procedures for any chemicals used, including wearing appropriate personal protective equipment (PPE) like gloves and goggles. Read your MSDS for every chemical used.*

Hot Water & Steam Burns:

- *Keg washers use hot water and have a steam option, both of which can cause severe burns. Avoid direct contact with hot water or steam, and use protective gear when necessary. Understand the location from which steam is vented from the system, and take precautions to protect yourself and others in the keg washing area.*

Electrical Hazard:

- *As with any electrical equipment, there is a risk of shock, especially in environments where water is present. Ensure that the equipment is properly grounded, and avoid handling electrical components with wet hands or in a wet environment. Disconnect power before servicing.*

Explosion Risk with Improperly Ventilated Kegs:

- *If a keg is not properly ventilated, pressure can build up, leading to an explosion. Ensure that all kegs are properly depressurized before attaching them to the keg washer.*

Slip and Trip Hazards:

- *Wet floors around the keg washer can be slippery. Maintain a clean, dry area around the equipment to prevent falls.*

Ergonomic Hazards:

- *Improper handling of kegs can lead to strains or injuries. Use proper lifting techniques and equipment when moving kegs.*

Noise Exposure:

- *Keg washers can be loud. Prolonged exposure to high noise levels can damage hearing. Use ear protection if necessary.*

Proper Training and Operation:

- *Only trained personnel should operate the keg washer. Ensure that all operators are familiar with these instructions and safety procedures.*

Regular Maintenance and Inspections:

- *Regularly inspect and maintain the keg washer to ensure it is in good working condition. Replace defective or worn-out parts immediately. Pay close attention to tubing, as old tubing can rupture during use.*

⚠WARNING Always connect two kegs for cleaning! Both keg couplers will spray chemicals whenever a cycle is started.

Emergency Procedures:

- *Be aware of and understand the emergency shut-off procedures.*
- *Know the location of the nearest eye wash station (indicated by signage).*
- *Familiarize yourself with the operation of the eye wash station.*
- *Report all incidents of chemical exposure to your supervisor, no matter how minor they may seem.*

In Case of Splash to Eyes:

- *Immediately proceed to the eye wash station.*
- *Flush the affected area with water for at least 15 minutes.*
- *Remove any contact lenses at the first sign of splashing.*
- *Seek medical attention immediately after flushing.*

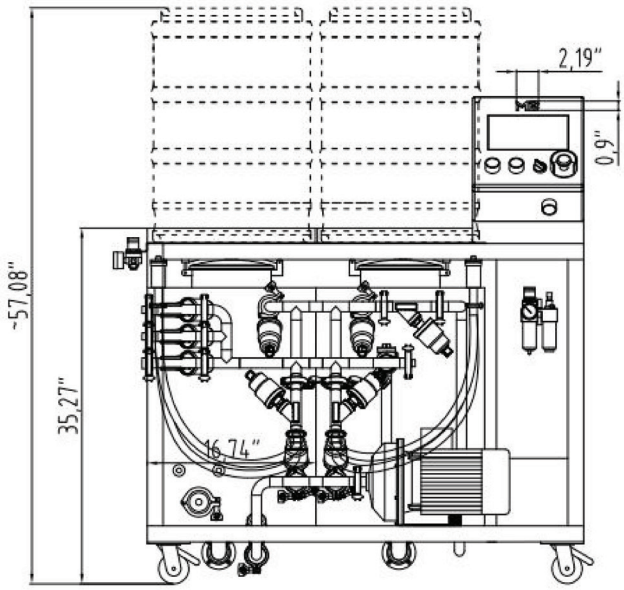
In Case of Splash to Skin:

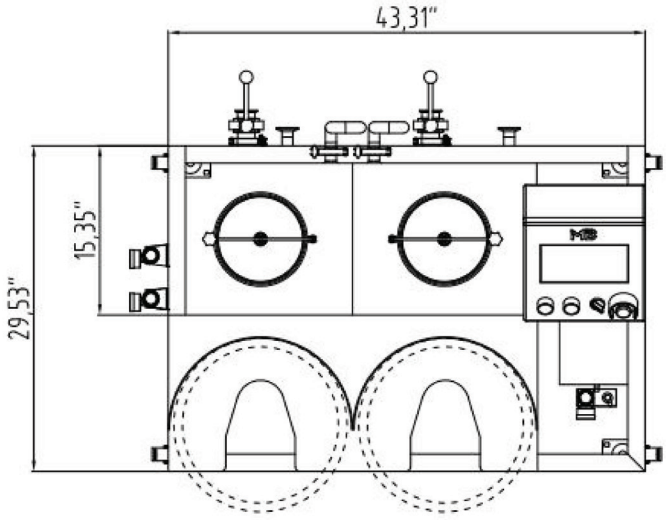
- *Rinse the area thoroughly.*
- *Remove contaminated clothing.*

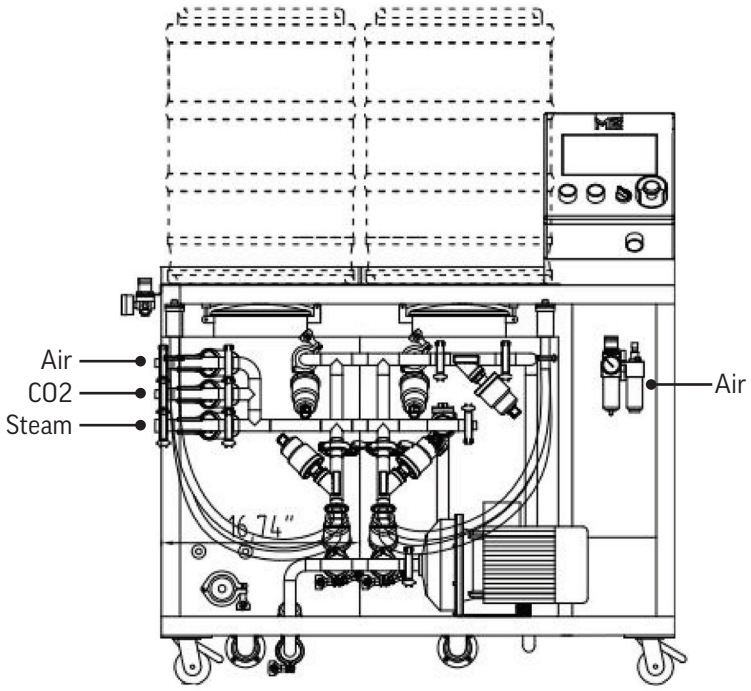
Keg Washer Overview

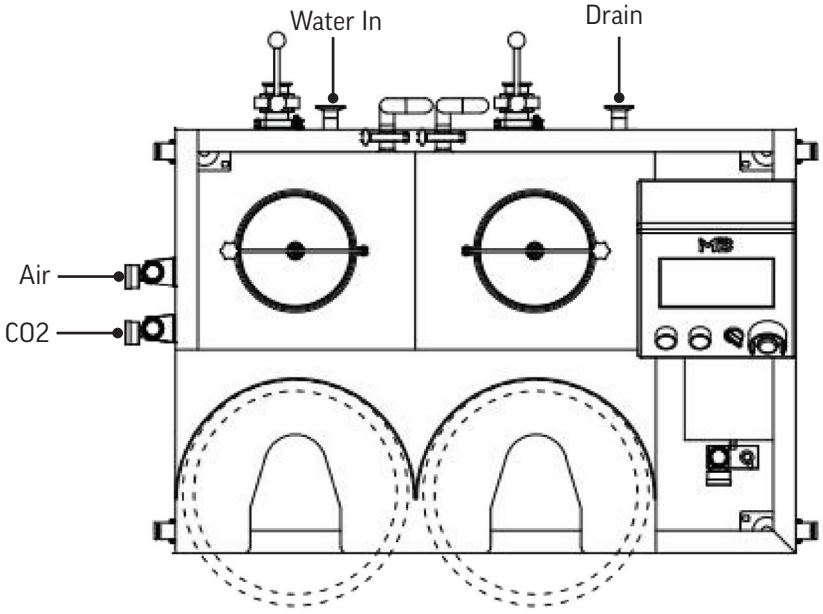
Specifications

Production Rate	24-30 Kegs/Hr
Electrical Rate	208-220 Volts, Single Ph, 60Hz
Recommended Service	50 AMP
Max Power Consumption	8 KW
Operating Mode	Automatic, PLC
Heated Caustic Tank Volume	21 Gallons
Sanitizer Tank Volume	21 Gallons
Feed Water Pressure	60 PSI Min. @ 15 GPM
Feed Air Pressure	60 PSI Min. @ 17 SCFM
Air Drain Pressure	20-30 PSI
Feed CO2 Pressure	60 PSI Min. @ 17 SCFM
Machine Weight	400 lbs









Set Up

- Hook Up Water (back Side)
- Hook up air (left side)
- Hook up CO_2 for valve operation (right side)
- Hook up CO2 for purging (left side)
- Fill caustic reservoir (left side)
- Fill sanitizer reservoir (right side)
- Plug in (plug not supplied)
- Turn on main switch
- Enable kill switch

Programming

There are 4 programmable washing cycles. The first 3 come pre-programmed but can be altered to fit the brewery's needs. The 4th is for a custom-sized keg. Below are the default settings.

Step	Description	1/2 BBL Kegs (Seconds)	1/4 BBL Kegs (Seconds)	1/6 BBL Kegs (Seconds)
1	Blow Out Residual Beer	16	12	10
2	Clean Water Rinse	19	16	13
3	Clean Water Discharge	35	25	20
4	Caustic Pulse Washing	41	36	31
5	Caustic Recovery	31	26	25
6	Clean Water Rinse	31	26	23
7	Clean Water Discharge	35	28	25
8	Sanitizer Pulse Washing	31	26	23
9	First Sanitizer Recovery	26	21	16
10	Second Sanitizer Recovery	5	5	5
11	Steam Purge to Drain	6	6	6
12	Steam Holding Only	25	25	25
13	CO_2 Purge to Drain	6	5	5
14	CO_2 Pressure Fill	Auto	Auto	Auto
	Total	**307 Seconds**	**257 Seconds**	**227 Seconds**

Note: Set the Steam Times to 0 if not connecting to Steam.

A. Operating

⚠WARNING

- *Failure to use two kegs can Spray Chemicals in the work space.*

1. Always use safe lifting methods. Cleaning kegs is a repetitive task.

2. Invert and place on the stand.

3. Press the Start Button.

4. The Washer will go thorough the following cycles:

1. Empty
2. Rinse
3. Empty
4. Wash
5. Recover Caustic
6. Rinse
7. Empty
8. Sanitize
9. Recover Sanitizer
10. Second Sanitizer Recovery
11. Steam Rinse (Optional)
12. Steam Hold (Optional)
13. CO_2 Purge
14. CO_2 Fill

5. When complete, remove, turn upright, and uncouple.

6. The cycle on two 1/2 BBL Keg takes about 5 minutes. The step times can be easily adjusted in the software.

B. Cleaning

1. Normal operation will keep the internals clean. Rinsing after use is recommended.

- Drain Caustic and Sanitizer and replace with water
- Run a Cleaning Cycle on two spare kegs
- Flush with Water

2. Clean the screen with a damp cloth. Wipe stainless surfaces with a dry cloth.

C. Maintenance

1. Run daily inspections to ensure Keg Washer is maintained.

- Check all hoses for cracks and wear
- Check Line Driers and oiler
- Check for leaks

D. Chemicals

1. Follow your chemical supplier's recommendations as they are the experts. Below are some suggestions for normal use.

- Caustic (1% to 8%, 4% is typical)
- Peracetic Acid (80 ppm to 200 ppm, 100 pm is typical)

Troubleshooting

No Power
- Check the Plug.
- Check the Breaker.

No Heat
- Check the connection to the heating element located on the front side of the caustic tank cooling flow rate.

Valves don't turn on
- Check the air pressure on the right side air connection.
- Check the emergency stop button.

Keg does not empty
- Make sure you are using the correct coupler.

System will not start
- Check caustic level.

A change in any of these parameters can indicate a problem in your process. While measuring all of these parameters is not necessary for normal operation, it is crucial for troubleshooting.

Pump Instructions

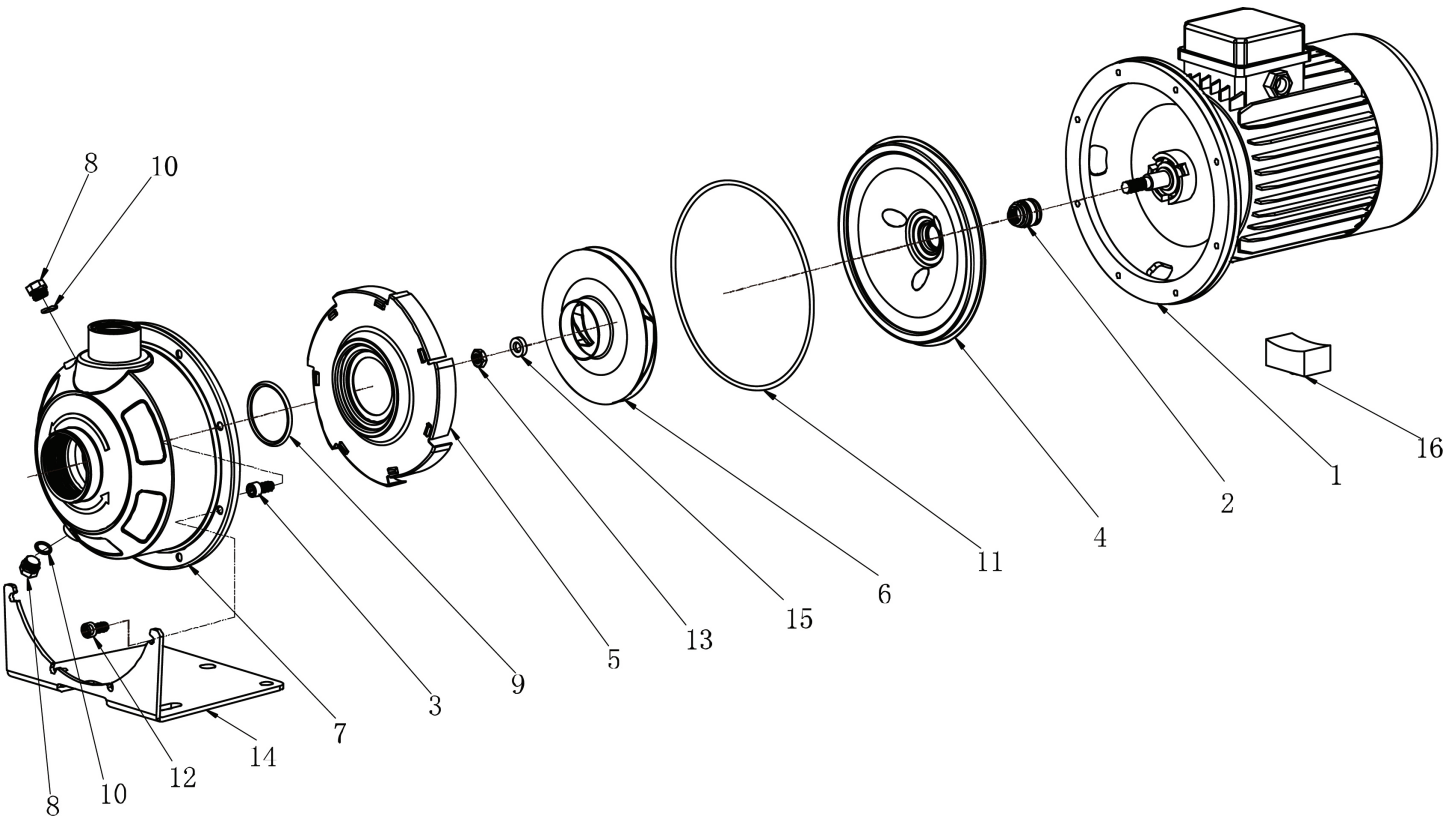
Overview

The MS/MSS Series consists of horizontal single-stage centrifugal pumps that are directly connected to the motor, creating a compact overall structure. These pumps are designed with flow passage components made of stainless steel to prevent corrosion. Important components of the pump are constructed from lightweight stamped stainless steel. Moreover, the pump is equipped with a threaded inlet and outlet for easy TC connections.

A. Working Conditions

- Liquid temperature 14˚F to 185˚F (-10˚C to 85˚C)
- Ambient temperature: up to 104˚F (40˚C)
- Max Pressure of the system is 8 bar
- The pump must be moving liquid to lubricate and cool the seal

Structure Drawings



1. Motor
2. Mechanical Seal
3. Screw M6 x 15
4. Seal Base
5. Diffuser
6. Impeller
7. Casing
8. Drain
9. Neck ring
10. O-ring
11. O-ring
12. Screw M6 x 20
13. Nut
14. Bracket
15. Spacer ring
16. Support foot

B. Operation

Before starting, ensure the mounting bolts are tight and bleed the pump.

C. Starting and Running

1. Start the motor, ensuring its direction matches the pump's arrow.

2. Monitor the pump for vibrations. Release any trapped air and check for unusual noises. Stop and inspect if abnormalities are found.

D. Maintenance

1. Stop operations immediately if there are significant deviations in pressure, voltage, vibration, noise, or other parameters, and conduct a thorough inspection.

2. The motor bearing cover temperature should not exceed 158˚F (70˚C).

3. Expect slight mechanical seal leakage (up to 3ml per hour). Excessive leakage requires immediate inspection.

4. Vibrations may result from excessive pipeline pressure or loose mounting bolts.

⚠WARNING

- *Operating the pump dry or without air evacuation can damage the mechanical seal.*
- *Do not exceed stipulated flow rates or frequently start the pump (limit to 40 starts per hour).*
- *Avoid prolonged operation with a closed valve.*
- *Disconnect power after shutdown to prevent accidental restarts.*
- *Drain liquid after shutdown to prevent freezing.*
- *Ensure power is off before pump maintenance.*

⚠WARNING

- *Assembly & Disassembly should be performed by trained staff only.*

E. Disassembly

1. Loosen screws connecting the casing and motor.

2. Remove the bracket, casing, O-ring, diffuser, and impeller O-ring as needed.

3. Securely hold the pump shaft and remove the impeller and seal carefully.

F. Assembly

1. Clean and press the seal ring into the seal base plate.

2. Insert the seal base plate onto the pump shaft without impacting the seal ring.

3. Clean friction surfaces, install the mechanical seal, and hold the pump shaft with a strap clamp. Install the impeller and cover, tighten the nut, set the seal ring, diffuser, and neck ring, and ensure minimal axial clearance.

4. Align and connect the casing to the motor, secure with screws, and manually check for smooth impeller rotation.

NOTE: Seal Kits are availble for purchase. SKU: PBE5001A-MB

⚠WARNING

- *Properly ground the motor. Follow the wiring diagram on the terminal box lid for electrical connections.*

G. Troubleshooting

1. If the pump spins without moving fluid, bleed the pump.

2. If there's no sound, check for power.

3. If it's loud, inspect the bearings.

⚠WARNING

- *Power off before opening the terminal box to avoid electric shock.*
- *Stop the pump before opening guards to prevent injury.*
- *Apply grease as needed.*

If you have any questions or concerns, please reach out to our Customer Service team at 1-800-600-0033 or info@moreflavor.com.