



MICRO MATIC Guide to Safe Use and Care of Micro Matic D-System Keg Spears

Congratulations on acquiring high quality, refillable stainless-steel kegs, equipped with Micro Matic D System Keg Spears. This combination will provide years of reliable service, but here are a few tips to help ensure long-term reliability:

Keg Washing

- Prior to washing kegs, check the condition of every keg and valve. They must be within acceptable limits* of:
 - Damage to the double circlip, which secures the spear in the keg neck
 - Visible damage to the CO₂ or beer valves
 - Bent necks; dented or deformed top or bottom dome
 - Dented sidewalls
 - Bent or damaged chimes
- Pre-clean valves and remove any foreign objects that can impact the valve or enter the keg.
- Do not exceed the maximum Product Warranty conditions below:
 - Steam:
 - Temp ≤ 135°C (275°F), ≤ 2 minutes contact time
 - Alkaline or acid cleaning or sanitizing solution:
 - Concentration ≤3%,
 - Temp ≤ 80°C (176°F), ≤10 minutes contact time
- Before using any new or unconventional chemicals to clean or sanitize your kegs, check compatibility with Micro Matic.
- Specialized wash/fill couplers are necessary on keg washers using couplers to connect kegs; do not use dispense couplers.
- Automated washers using a wash probe to engage the keg should be checked for proper compatibility with D-System valves. There are many poorly designed probes in use, which cause damage to the rubber CO₂ valves and springs, or which over- or under-stroke the valves, preventing effective cleaning and purge cycles.
- Inspect and maintain couplers and probes to eliminate sharp edges that can damage valves; replace these when they become worn or damaged.
- Kegs in storage should be cleaned and sanitized, purged with CO₂, pressurized to ~15psig and kept away from moist environments.
- Keep kegs out of direct sunlight, as UV light is harmful to rubber valves.

Keg Filling

- Make sure each keg is “fit to fill”. It must be clean, sanitized, free of damage, purged of air with CO₂ and capable of holding pressure.
- **Do not overfill your kegs!** All kegs are designed to have CO₂-filled headspace remaining after filling. The best options are:
 - Fill to a metered volume either by weight or volume;
 - If filling to overflow is necessary, tip the keg to a pre-determined angle to allow for a pocket of CO₂-filled headspace.
- Overfilled kegs lack the ability to absorb expansion when beer warms above packaging temperature; this can create enough hydraulic force to damage valves and even to permanently deform or rupture kegs!
- If filling with a coupler, make sure it is designed for wash/fill applications (see above note).
- Please inquire for more information on best practices for filling kegs.



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The trusted leader
in keg spear technology.

Keg Inspection and Maintenance

Proper maintenance of your kegs and spears helps to assure proper functioning and customer satisfaction with your draft beer. Maintenance includes:

Inspection

- Remove a random sampling of spears weekly or monthly to assure your kegs are getting cleaned properly* (see **Tools & Safety** below)
- Inspect spears for evidence of residual soils, whether beer stone or organic.
- Look inside the keg to make sure the shell is showing no evidence of cleaning shadows.
- Take sterile samples from fill-ready kegs, or beer from kegs post-filling, for QC analysis.

Maintenance

- The lifespan of your kegs can be suggested by the keg manufacturer.
- The working life of a keg spear depends upon time, conditions, and number of cycles through the brewery, but is generally considered to fall in the range of 6-8 years.
- It is best to maintain spears proactively, before they fail, rather than after they fail.*
- Micro Matic 10-year/10-color cycle of CO₂ valves aids in determining the age of spears in your kegs and segregation for preventative maintenance.
- Aged or damaged spears may be replaced entirely; most Micro Matic keg spears may be refurbished.
- When spears are serviced, all parts marked with an * in the diagram at right should be replaced; the refurbished spear should be tested before returning to service.

Tools & Safety

- Kegs are pressure vessels and it is critical that you obtain the proper tools and training before attempting to remove the spear.
- **Failure to do so can have deadly results!**
- **Do not** use hammers, pliers, punches, screwdrivers or any other tools not specifically designed for keg service*.

***Contact Micro Matic** for detailed information on inspecting kegs and valves, training to safely service your kegs, and proper tools including the Valve Compression Safety Tool and Circlip Removal Knife shown at right.

Micro Matic Keg Spear Parts

Note that a **new Double Circlip** must be used every time a spear is mounted in the keg. The remaining parts marked with an * below are recommended for replacement when spears are refurbished. Spear shown: **#900-060 D System, Ball-type** for two-ear/drop-in keg neck.

Double Circlip	100-623*	
Body <small>Not Sold Separately</small>	700-133	
CO ₂ Valve	112-895*	
Beer Valve, ball	100-349	
Beer Spring	100-008*	
Down Tube <small>Not Sold Separately</small>	700-439	
CO ₂ Spring	100-007*	
Retainer Disk	700-357	
O-ring	112-689*	



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