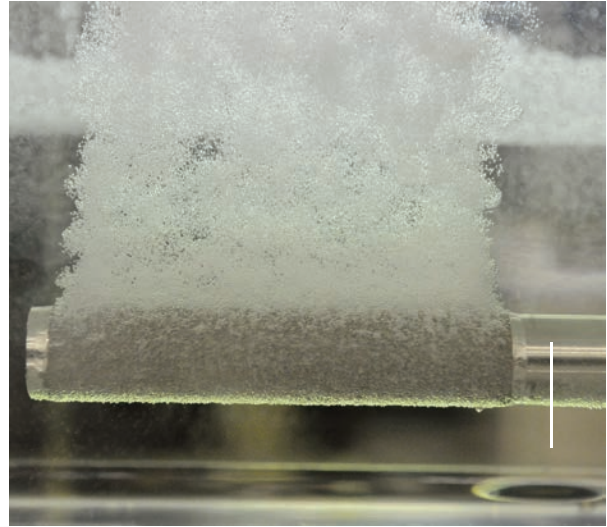


Mott Quick Change Sparger Instructions



In the past Mott porous metal sparger elements, or “frits” as they are sometimes called, were welded to the end of sparger assemblies. This fixed method of attachment required either a cut and re-weld method of replacement or a clean out-of-place method for the entire sparger assembly to meet GMP validation methods.

Today, Mott offers a Quick Change Sparger that reduces the time and effort to replace the porous metal sparger element.

With the Quick Change Sparger system (see Figure 1), the porous metal element can be removed and replaced after each use. This eliminates the need to re-weld the tip or clean the entire assembly.

After each batch, a new tip can be installed on the end of the assembly and is ready for steam-in-place operation. Or the sparger tip can be cleaned out-of-place utilizing a number of methods including ultrasonic cleaning or a detergent and water flush.

Either way, the Quick Change Sparger can help make sparger change out simple and easy. Changing to new clean sparger tips after each batch provides an excellent method of maintaining GMP process validation methods.

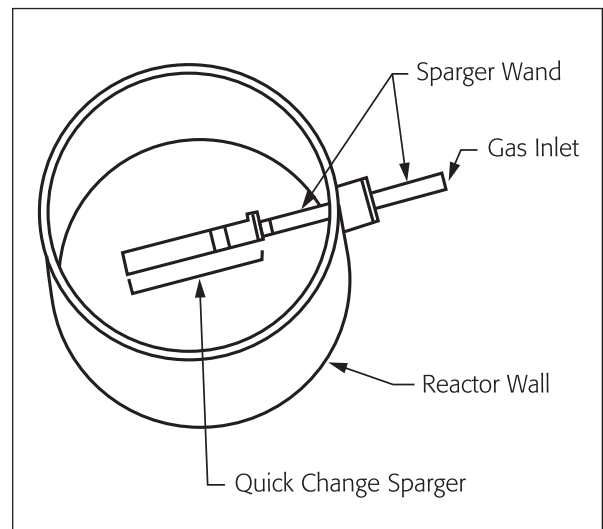


figure 1
Installed Sparger Assembly

Mott Quick Change Sparger System Assembly & Instructions

Parts

The Mott Quick Change Sparger System includes the Trident Sparger Wand Adapter (Figure 2) which is welded to the Sparger wand (not included*), an O-Ring seal, a porous metal removable sparger tip and a locking pin (Figure 3).

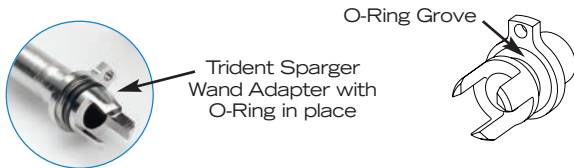


figure 2 Trident Sparger Wand Adapter

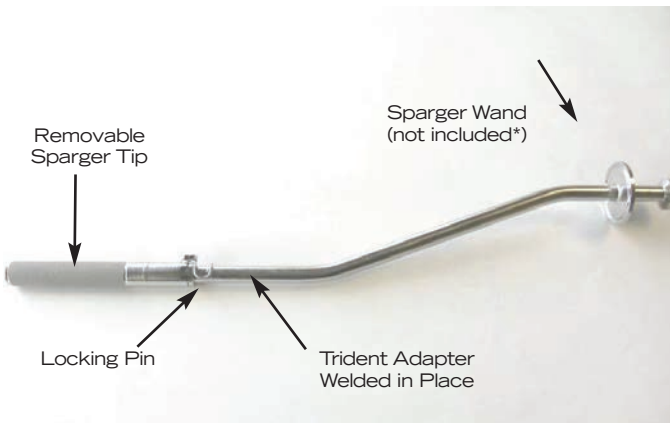


figure 3 Complete Sparger Assembly with Quick Change adapters and removable Sparger tip

*Mott does not supply the Sparger Wand as this is typically existing equipment which can be modified with the Trident adapter to accept the removable Mott porous metal sparger tips.

Assembly

Once the trident adapter has been properly welded to your sparging wand, the o-ring should be placed in the o-ring groove (Figure 4).

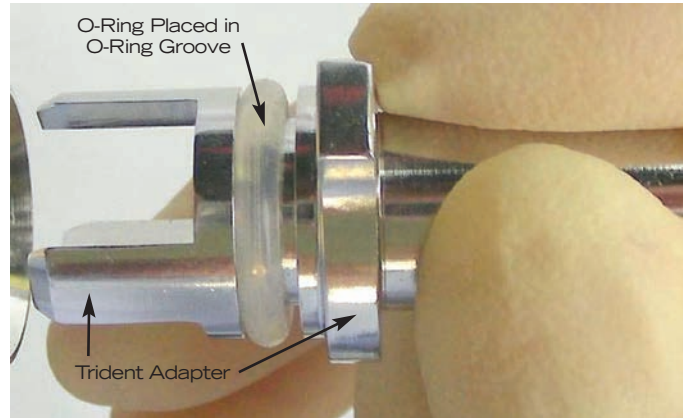


figure 4

Carefully push the collar of the removable sparger tip over the o-ring groove and align the pin locking tabs on the hardware (Figure 5).

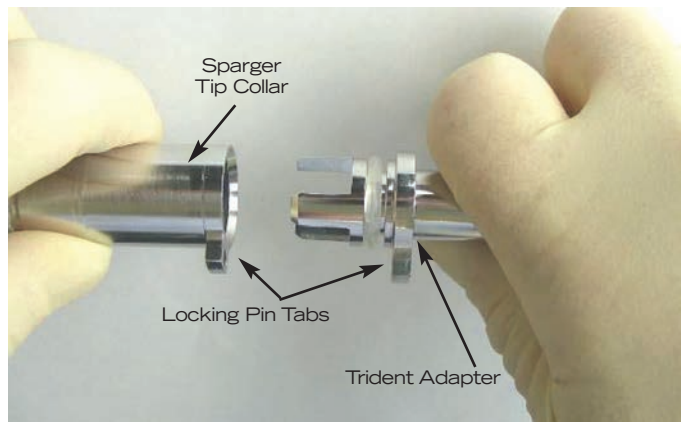


figure 5

With the pin locking tabs aligned carefully, push the sparger tip onto the trident adapter (Figure 6).

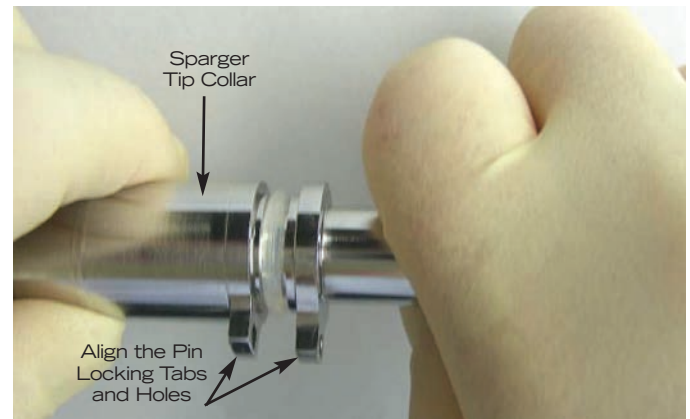


figure 6

Firmly push the sparger tip onto the trident adapter until the collar has covered the o-ring and the locking tabs are pressed together tightly (Figure 7).

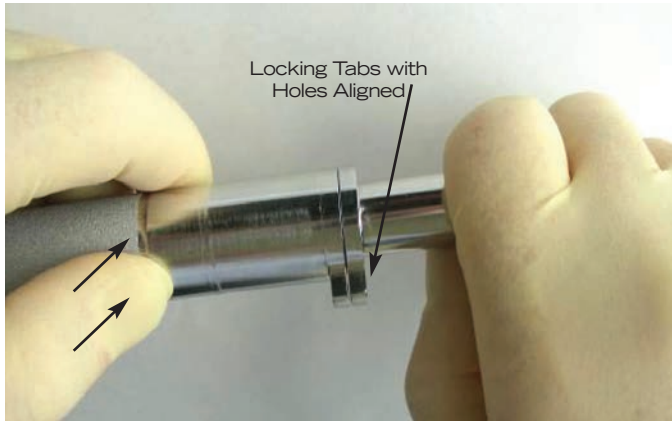


figure 7

Twist the EZ locking pin through the holes in the locking tabs until the pin coil engages both locking pin tabs (Figure 9).

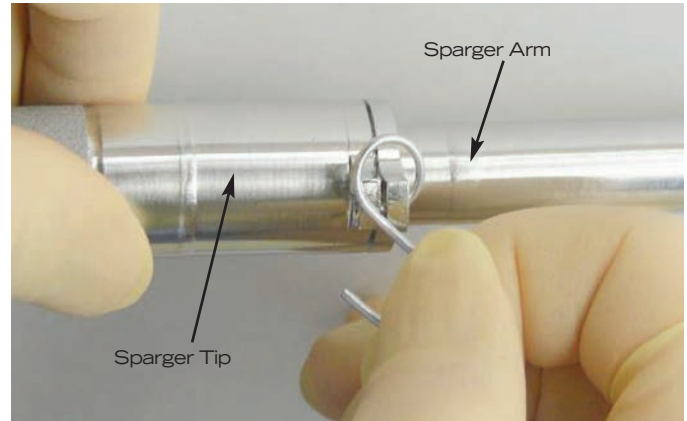


figure 9

Hold the locking pin by the larger tab end and slip the short end of the EZ locking pin through the holes in the locking tabs (Figure 8).

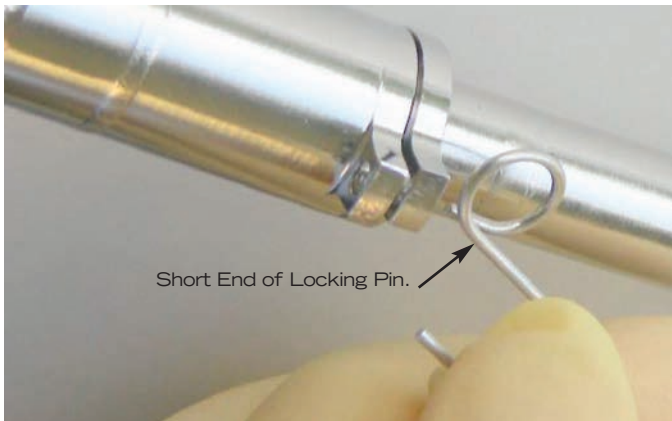


figure 8

Make sure to enter the locking pin holes from the sparger arm side of the joint (Figure 8).

Continue rotating pin as shown in Figure 10. With the EZ locking pin in place, the removable sparger tip is ready for use and steam-in-place (SIP) operations. It is normal to have a slight gap (approximately 0.01-0.02 inch) between the trident adapter and the removable sparger tip collar. This allows steam to wet out the areas between the tabs.

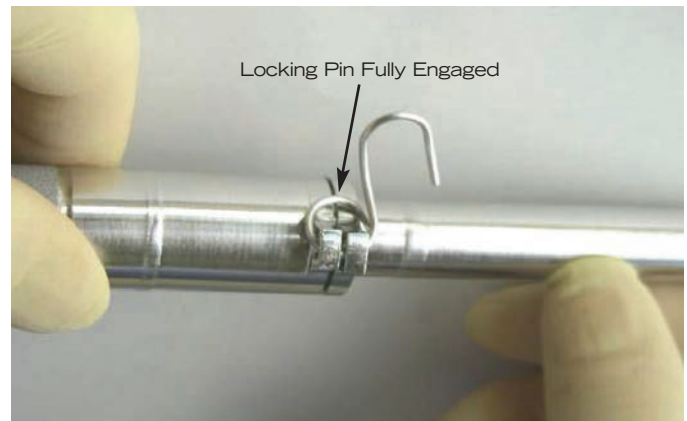


figure 10

Mott Quick Change Sparger System Assembly & Instructions

Once the EZ locking pin is secure, fold down the large end of the pin to prevent interference when installing the sparger through the tank wall (Figure 11).

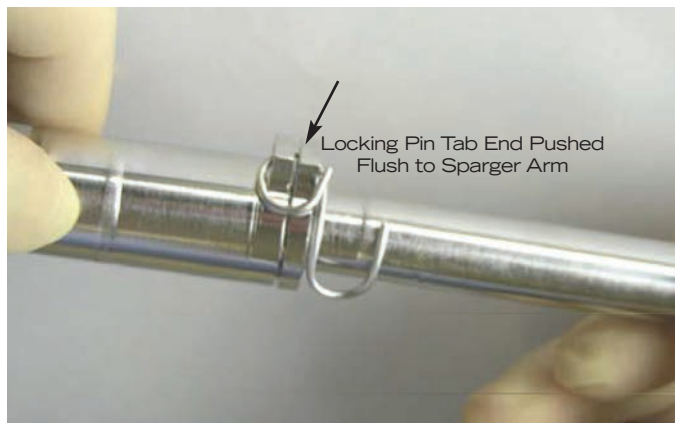


figure 11

The same method can be used to attach other devices to your sparger wand. Figure 12 shows a CIP spray ball attachment.



figure 12

Devices like Spray Balls can be Adapted to the Quick Change System

Additional removable sparger tips, EZ Locking Pins and Trident Adapter O-Rings can be purchased from your local Mott High Purity Distributor. For a distributor in your area, visit the "Contact Us" section of our website at www.mottcorp.com. For additional product information, visit our "Resource Center" at www.mottcorp.com.