

Big Sous Vide Cooker Construction Details



Start with a 48 quart Rubbermaid ice chest, add a drain valve ($\frac{1}{2}$ inch MIP with 2 inch threaded fitting @ Lowes). Secure valve tightly to the inner wall with a nut on each side of inner wall. This requires cutting a small slit in the outer wall at the edges of the hole for the valve so that the nut for the inner wall can be inserted. This approach for securing the valve avoids the possibility of collapsing thick compressible wall of the chest. Drill four $\frac{1}{4}$ inch holes around a $2\frac{1}{2}$ diameter circle centered over the valve hole. Use the holes to pump GE Silicon II into the space between the outer and inner walls; flood everything with the silicon even the threads protruding into the inside of the chest. Use a large metal washer at the outside of the valve hole; use a smaller neoprene washer and a metal washer on the inside.

Cut a hole in the lid to provide clearance for Temperature Controller that is clamped to the middle of the chest opposite the door hinge. Drill holes in the front and rear chest walls for supporting 8 non-removable rails. The rails are cut from $\frac{1}{8}$ inch steel rod. They are spaced 2 inches apart on each side of the controller and positioned $\frac{1}{2}$ inch above the max water level mark on the controller.



Cap nuts (8-32) secure the protruding ends of the rods; they are anchored with Liquid Nail adhesive rather than threads.

The rails are for supporting vacuum bags with bag clips. The two red clips are shown securing a large bag. The two blue clips are shown securing a small bag. The bags are folded over their rails so that they hang down $\frac{1}{2}$ inch or more above the bottom of the chest. When 8 large bags are used you can easily cook three or more racks of ribs.



