



ROLLER-LOCKING HINGED DOOR CONFIGURATIONS FOR MINI BULK & BULK STERILIZERS

This design consists of a solid 316L S/S inner plate and external carbon steel structural I-beams with outer channels to form the door. A heavy-duty hinge, hinge pin and hinge bearing blocks, make opening and closing the door an easy task. The design utilizes two hydraulic cylinders for locking/unlocking and a lift /lower cylinder for positioning the door. Once the door is lowered onto the doorstops and a positioning mechanism (redundant safety) is activated, the door may then be locked. The locking cylinders provide the means for a roller latching assembly to mechanically engage heavy-duty door blocks to move the door inward for gasket compression against a machined surface on the end of the autoclave. The door is locked and retained on two vertical sides.



Hydraulic pump.

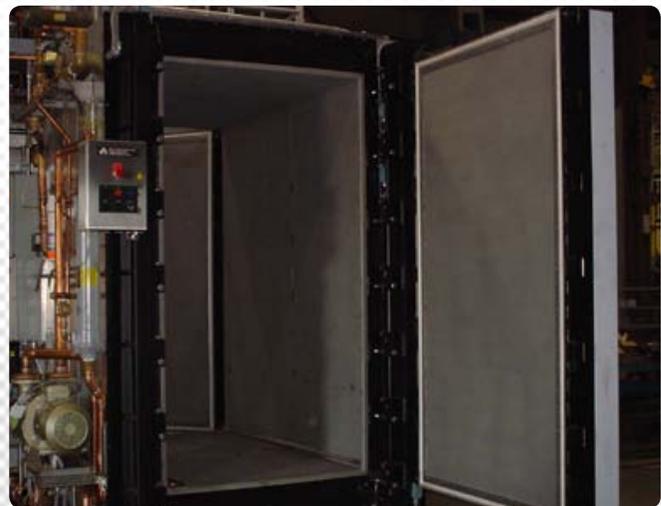
Once locked, all utilities could be lost and the door would remain in a locked & retained position. The door gasket is a P-shaped, silicone rubber extrusion and is held on the door with stainless steel retainers. The hydraulic system consists of a motor driven pump with filter and reservoir to generate the hydraulic pressure. Pressure is controlled to each respective cylinder via a hydraulic spool valve manifold. A mechanical pump is also provided on the package to enable the door to be unlocked and raised in the event of an emergency. Each door is provided with a minimum of four vacuum stops to prevent over-compression of the door seal during deep vacuum excursions. The door assembly is insulated with mineral wool and covered with an 18-gauge 304L stainless steel sheathing. This design has been used on chamber cross sections as large as 109"W x 109"L.

APPLICATION

The Roller-Locking Door is a good choice for use in ABSL-3 or ABSL-4 applications where maintaining door seal compression / integrity is most critical. It is also a good choice for areas where mounting space is limited or an existing hinged door autoclave is being replaced.



Roller-lock hinged door autoclave installed on-site.



Roller-lock hinged door autoclave on factory floor