

# Autoclave Pressure Relief Valves | 2016

Contact	Response	Do your testing facilities use pressure relief valves on their autoclaves?	Do your labs use rupture disks only? is that possible?
Krstulovich, James M. <a href="mailto:James.Krstulovich@Illinois.gov">James.Krstulovich@Illinois.gov</a> Illinois	Illinois' experience sounds similar to South Dakota's: we get some hissing but never enough to be of concern. We service our valves as needed through <a href="#">Allied Valve Inc.</a> 's Chicago office, and when it comes to verifying them, we use a Duff Norton Ram-Pac.	Yes	No
Hanson, Todd <a href="mailto:Todd.Hanson@dot.iowa.gov">Todd.Hanson@dot.iowa.gov</a> Iowa	We have been using the pressure relief valves, Consolidated Model 1543. They have been calibrated at Pioneer. They may release a little steam on occasion, but usually only to get the valve seated. Otherwise, we have not had any issues with them. Attached is a picture of one of the valves and the latest calibration report. 	Yes	No
Harris, Ricky <a href="mailto:RHARRIS@indot.IN.gov">RHARRIS@indot.IN.gov</a> Indiana	We have had some problems in the past with what you are mentioning, but it is usually due to some kind of debris in the valve. Which is simply fixed by checking the valve or pulling the release handle quickly during the heating process. Yes it releases steam but very little. If the problem persists we have the valve serviced. I would not go the route of just using a rupture disk I think that would be very dangerous. Is it possible that your autoclave is just over heating or maybe the autoclave itself needs some adjustment?	Yes	No
Tim Perault <a href="mailto:Tim.Perault@LA.GOV">Tim.Perault@LA.GOV</a> Louisiana	We have experienced some of the same problems. We replace the valve and have it rebuilt every six months but we do not test autoclave bars on a regular basis. We have not used rupture disks. You may check with a CCRL inspector about this problem.	Yes	No

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<p>McCullough, Donald  <a href="mailto:DMCCULLOUGH@ODOT.ORG">DMCCULLOUGH@ODOT.ORG</a>                      Oklahoma</p>	<p>Oklahoma DOT uses a pressure relief valve. We have been using Myers-Aubrey Co., located in the Tulsa, Oklahoma area, for several years to test, inspect, or repair our autoclave pressure relief valves. Oklahoma DOT has two relief valves that are alternately placed in service while the other is being tested or inspected/repared on an annual basis. We are very pleased with the quality of work and the support from the Tulsa location.</p>	Yes	No
<p>Miller, Patricia  <a href="mailto:PIMILLER@pa.gov">PIMILLER@pa.gov</a>                      Pennsylvania</p>	<p>Our valves will occasionally hiss around the 300 psi mark, but only for a few seconds at a time, and not enough to lose all of the water from the autoclave. We only use pressure relief valves and the required 600 ml of water, and we also check our valves every 6 months running them up to 350 psi before they release.</p> <p>The autoclaves we have are made by Boekel Scientific. We have several different brands of safety valves that we have accumulated over the years that include: Dresser, Allied Valve Ind., and Kunkle Valve Co., most of which have a tag on them from a company called Chalmers &amp; Kubeck Inc. that is located in Aston, PA and can sell, service or repair safety relief valves. I know we have sent some there in the past for service and we probably also purchased new ones from them.</p>	Yes	No
<p>Hodges, Darin  <a href="mailto:Darin.Hodges@state.sd.us">Darin.Hodges@state.sd.us</a>                      South Dakota</p>	<p>We are using Boekel autoclaves with refurbished Kunkle valves. There has been one instance in which we had the same problem. After looking into it further, he found out that they didn't calibrate the valves to the right pressure. The Calibration company had set the valves to pop off at a lower pressure causing the valves to leak moisture and then lose pressure as the water evaporated. Every now and then we do get one that hisses a little, but it never releases enough to cause it to run out of water. This has been checked by CCRL many times.</p>	Yes	No
<p>Montelongo, Jose II  <a href="mailto:Jose.Montelongo@txdot.gov">Jose.Montelongo@txdot.gov</a>                      Texas</p>	<p>We have two Boekel autoclaves that both use the pressure relief valves. We recently replaced our two old units with new ones, but we never had a problem with them hissing or releasing steam prematurely with the old units. The company of the valves (for both the new and old units) is Chalmers &amp; Kubeck Inc.</p>	Yes	No
<p>Lee, Bryan  <a href="mailto:bryanlee@utah.gov">bryanlee@utah.gov</a>                      Utah</p>	<p>The Utah DOT uses the autoclave weekly with an older Boekel autoclave and Dresser pressure relief valves and no issues.</p>	Yes	No
<p>Rod                      Minnesota</p>	<p>They use Pressure Relief Valves. The company they go through for their valves is DOWCO Valve Co. They get some hissing but not to bad.</p>	Yes	No
<p>Waldrop, Andrew  <a href="mailto:waldropa@dot.state.al.us">waldropa@dot.state.al.us</a>                      Alabama</p>	<p>We have been using rupture disks in our autoclaves for as long as I have been here. We've not had any issue with them, as far as I'm aware, other than having to replace them periodically like Dan Miller mentioned. Ours are ordered from Continental Disc Corporation (<a href="http://www.contdisc.com">www.contdisc.com</a>), and the specifications for the disks are in AASHTO T 107.</p>	No	Yes
<p>Prieve, Eric  <a href="mailto:eric.prieve@state.co.us">eric.prieve@state.co.us</a>                      Colorado</p>	<p>Colorado does not use this test equipment anymore. But when we did, we used rupture disks since we could never get the pressure relief valve to not leak as you described. We retrofitted our autoclave with the rupture disk setup and that work flawlessly until we gave up our limited testing of cement.</p>	No	Yes

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<p style="text-align: center;">Vader, Leonard  <a href="mailto:Leonard.Vader@modot.mo.gov">Leonard.Vader@modot.mo.gov</a>                      Missouri</p>	<p>We used the pressure relief valves years ago, which was standard, on the autoclaves. After AASHTO put into the specification that the valves had be tested then none of them would ever stay sealed. I would add that all of them originally failed at the specified pressure they were set to release the pressure. We sent them in for repair and bought new but with the same results you have had with leaking. So we have gone to the rupture disk setup, have had no problems and there is no testing so it's cheaper in the long run.</p> <p>When we went to rupture disks, I bought them originally through Praxair which was before Humboldt carried them. Rupture disks are allowed in the AASHTO and AMRL specifications and work well. Humboldt number H-3240.22 complete and H-3240.21M or H3240.21N rupture disk only. Just be sure to keep the information on the rupture disk from the manufacturer for the fail point using actual rupture disk fail points for the lot provided. I have attached a couple pictures of one of our old autoclaves and the rupture disk is the orange disk. I have retrofit our autoclaves with pressure transducers and controls that are programmable and control the pressure within tens of a psi. I also got rid of the almost closed off galvanized pipe and replaced it with brass to reduce corrosion. We have a newer Boekel autoclave that never would stay within the test pressure parameter and that prompted the retrofit change. So happy that we have changed out all of the old controls. We used one of the retrofit autoclaves for CCRL this last time and it worked great. I think you'll be happy using the rupture disks and not fighting the safety pop-off valves. Have a good day.</p> <div style="text-align: center;">  </div>	No	Yes
<p style="text-align: center;">Parry, James  <a href="mailto:James.Parry@dot.wi.gov">James.Parry@dot.wi.gov</a>                      Wisconsin</p>	<p>Wisconsin has not been using our autoclaves a lot recently, but when we did, we ran them for many years using the rupture discs only, due to frequent problems with the accuracy, reliability and proper functioning of the pressure relief valves.</p>	No	Yes

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<p>DeLorenzo, Richard  <a href="mailto:Richard.DeLorenzo@dot.state.fl.us">Richard.DeLorenzo@dot.state.fl.us</a>                      Florida</p>	<p>For our autoclave machines, we use both the pressure relief valve and the rupture disk. We have our valves tested and re-verified annually and at that time we change out the rupture disks. With our configuration (photo attached), if the rupture disk does not burst, the valve will never be pressurized. You are only required to use one or the other, we use both just as a measure of safety. If you use just the rupture disk you would of course need to plumb the discharge end away any personnel in the event of the disk bursting.</p> 	Both	Both
<p>Miller, Dan  <a href="mailto:Daniel.Miller@dot.ohio.gov">Daniel.Miller@dot.ohio.gov</a>                      Ohio</p>	<p>Ohio DOT has been using the rupture disks and pressure relief valves with no issues to speak of to date. In the past there have been some issues with the rupture disks and once replaced there have not been further issues. I have attached a picture of our autoclaves as a reference. If you have any other questions or concerns, please let me know. Thanks.</p> 	Both	Both
<p>Yokotake, Kelly H  <a href="mailto:kyokotake@dot.state.nv.us">kyokotake@dot.state.nv.us</a>                      Nevada</p>	<p>I had our Structural/Concrete person review your question today. He was not sure what you were asking. If you wish, you can call Troy Olson/Concrete Supervisor at (775) 888-7871. We have an autoclave that is currently being repaired, I think you would get a better response from Troy then myself.</p>	NA	NA
<p>Felag, Mark  <a href="mailto:mark.felag@dot.ri.gov">mark.felag@dot.ri.gov</a>                      Rhode Island</p>	<p>We do not run this test.</p>	NA	NA