

Setting up the Finish Systems (C.A. Technologies) Pressure Pot

Setting up the Finish Systems (C.A. Technologies) Pressure Pot for Resin Casting Compiled By Kevin Roberts (IAP: kevrob)

After reading all that I could find on the International Association of Penturners forum and the web about different methods of casting, I decided that a pressure pot would work best for everything I might want to do in the future.

With that in mind I set out to find the cheapest pressure pot I could find, which usually leads me to one store – Harbor Freight (HF). However, after doing more research and having read all the reviews on the HF Pressure pot - along with the failures – I was a little concerned. I have heard from many people on IAP who have used the HF pot for years with no problems, and good for them. But I tend to be more accident prone than the average person and wanted to make sure there was no need to cash in my life insurance policy anytime soon. Therefore, after much thought and consideration and given the dangers that can come with using a pressure pot, I decided I wanted to find the safest pot I could.

During my research I ran across the Finish Systems Pressure Pot made by C.A. Technologies. It looked like it was sturdy and well built - so I spent a little more than others I have seen and purchased it. The pressure pot comes from the company well shipped with the pot, the lid, four casters, a pressure gauge, and a wrench for tightening the lid down before pressurizing (Figure 1). The pot is 8 3/4" deep and 10 3/8" in diameter.



Figure 1: The pressure pot as it arrives from the manufacturer.

The lid has four fittings on it (Figure 2), the air release valve, the air safety valve, and liquid outlet and an inlet valve. I have been asked about the safety valve a few times, while I have no first-hand experience, I am told the safety valve will go off at 80 PSI. The inlet is where we will connect the fittings.

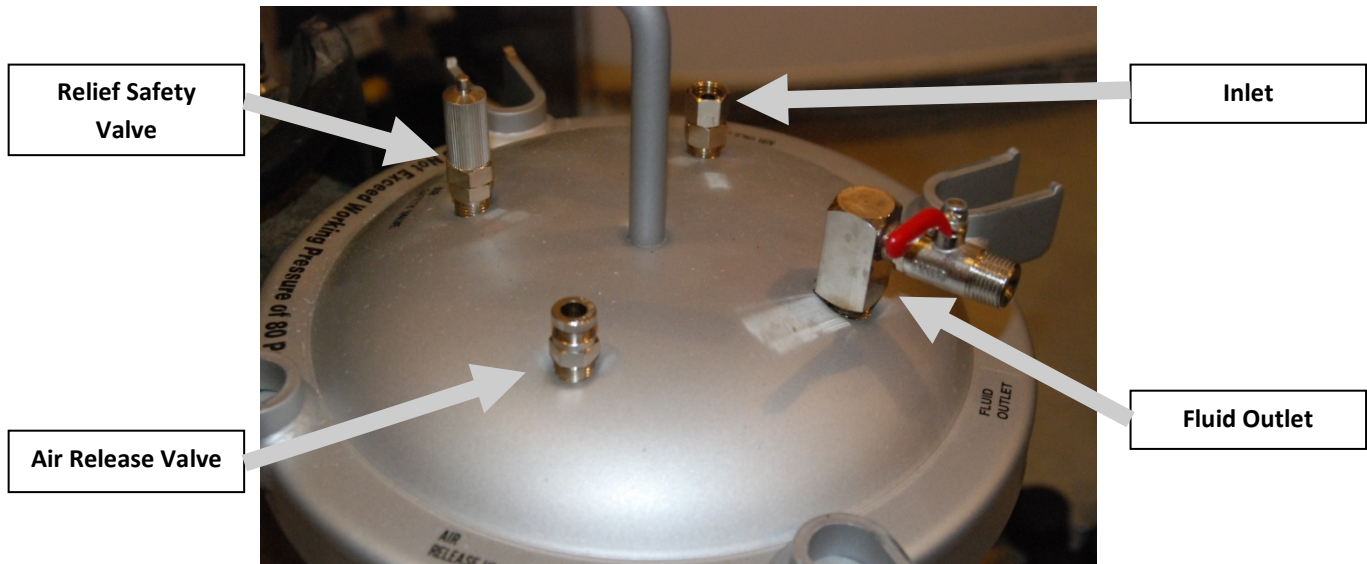


Figure 2: The pressure pot lid.

The pot itself came with NO instructions - nothing, zero, zilch. OK - I think it came with a sheet - but it was about using it as a paint pot - so I trashed it as it was no help. I tossed aside the pressure gauge and fittings that came with it. It is sitting in my tool box on the off chance I might one day use it within the next 30 years. Based on recommendations from IAP members, specifically, Jeff Powell (IAP: Workinforwood), and several other posts that I have read on IAP, I have modified the pressure pot as follows.

Do not bother attaching the casters. I did at first thinking it looked nice and made the pot sit a little taller. However, after attempting to tighten the wing nuts down the first time while trying to hold it still proved to be too difficult with the casters, so I removed them.

Go to Harbor Freight and purchase the Dual Chuck Tire Inflator with Dial Gauge (Item #: 68271). I did not purchase this at first as was recommended. The closest HF is about an hour away from my home and I couldn't find it online, so I thought maybe they did not carry it anymore. So I tried to put together the part, but had a heck of a time. Menards (large home improvement box store, similar to home depot) carried the part, but the dual tire chuck seemed like it was permanently attached to the unit, so that went back the day after I purchased it. Went to Ace and True Value hardware stores and found the same thing. I finally ordered one online (\$20) and had to tear it apart and go back to Menard's to get a few other parts (\$5 extra) it. Attached it to the pot and I had a leak - this one was about 20-30 lbs per hour. So I used it for a bit and it worked fine.

I eventually made it to HF and picked up the unit for under \$15.00 (in 2011). You will want to attach a quick disconnect to this too, so pick one up at HF while you are there. When you get it home, remove the dual tire chuck and attach the quick disconnect (using a few rounds of Teflon tape, as seen in Figure 3). *Lesson = plan a trip to harbor freight, don't mess around trying to find it somewhere else or put it together, you will waste your time and your money.*



Figure 3: Harbor Freight's Dual Chuck Tire Inflator with Dial Gauge (Item #: 68271) with Quick Disconnect attached

The reason I choose to use this is you can quickly connect the air hose to the unit and squeeze the trigger to pressurize the pot, check the pressure and continue to pressurize and stop once your desired pressure has been attained. You can then disconnect the hose and walk-away from the pot and allow the resin to harden.

To attach the hose to the pot, wrap a few rounds of Teflon tape around the hose and screw the hose into the inlet fitting of the pressure pot. Tighten with a few wrenches and you are completed (Figure 4).



Figure 4: Completed pressure pot with tire inflator attached

To attach the pressure pot to your air compressor, simply attach the air hose to the quick disconnect (Figure 5). To fill, with the air compressor on, simply depress the trigger and allow the pot to pressurize (Figure 6). Hold it for only five seconds or so at first until you get the feel for how fast the pot will pressurize. I use a simple Husky Air Compressor, 1.5 Horse Power, 4 gallon and have had absolutely no problems pressurizing the pot.

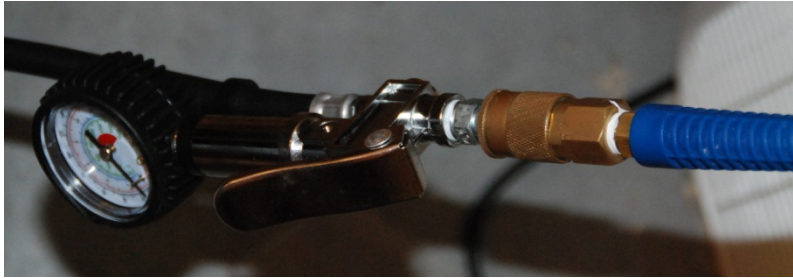


Figure 5: Pot connected to the air hose ready to fill.



Figure 6: To fill, with the air compressor on, simply depress the trigger for a few seconds and allow the pot to pressurize

The pressure pot has served me well. I have probably used it 10 - 15 times so far with only one minor issue. I can't seem to get a good seal - I seem to always have a slow leak, but so slow it hasn't impacted my casting as far as I can tell. When I start, I pressurize it up to about 60 lbs

(way more than needed) and after an hour or so it usually drops 10PSI, so nothing great and it still has plenty of pressure to cast with no bubbles. By the next morning it is usually close to 0 PSI. My guess is this is probably user error rather than a faulty pot.

The only other thing you will need is a rack to go in the pot. I made one in 15 minutes with the band saw and some leftover wood (Figure 7 & 8). Besides holding two molds, the rack will deflect the air when you pressurize the pot - otherwise the air is blowing right onto the resin and would create a mess. Even with my rack, I still line the pot with wax paper. Have yet to spill even a drop, but better safe than sorry!



Figure 7: Homemade Shelf



Figure 8: Shelf in place within the pot

Hope this helps. Let me know if you have any other questions – I had plenty when I started, so don't be shy.

Materials & Cost List (in 2011)

Item	Source	Price
Finish Systems (C.A. Technologies) Pressure Pot	http://www.finishsystems.com/resin-castingpressurepots.html	\$272.40
Freight's Dual Chuck Tire Inflator with Dial Gauge (Item #: 68271)	http://www.harborfreight.com/dual-chuck-tire-inflator-with-dial-gauge-68271.html	\$12.99
1/4" x 1/4"NPT Female Pneumonic Quick Disconnect	Harbor Freight	\$1.50
Total Investment		\$286.89 + tax