The User Guide to

The X-11 Molding Chamber

by hapco

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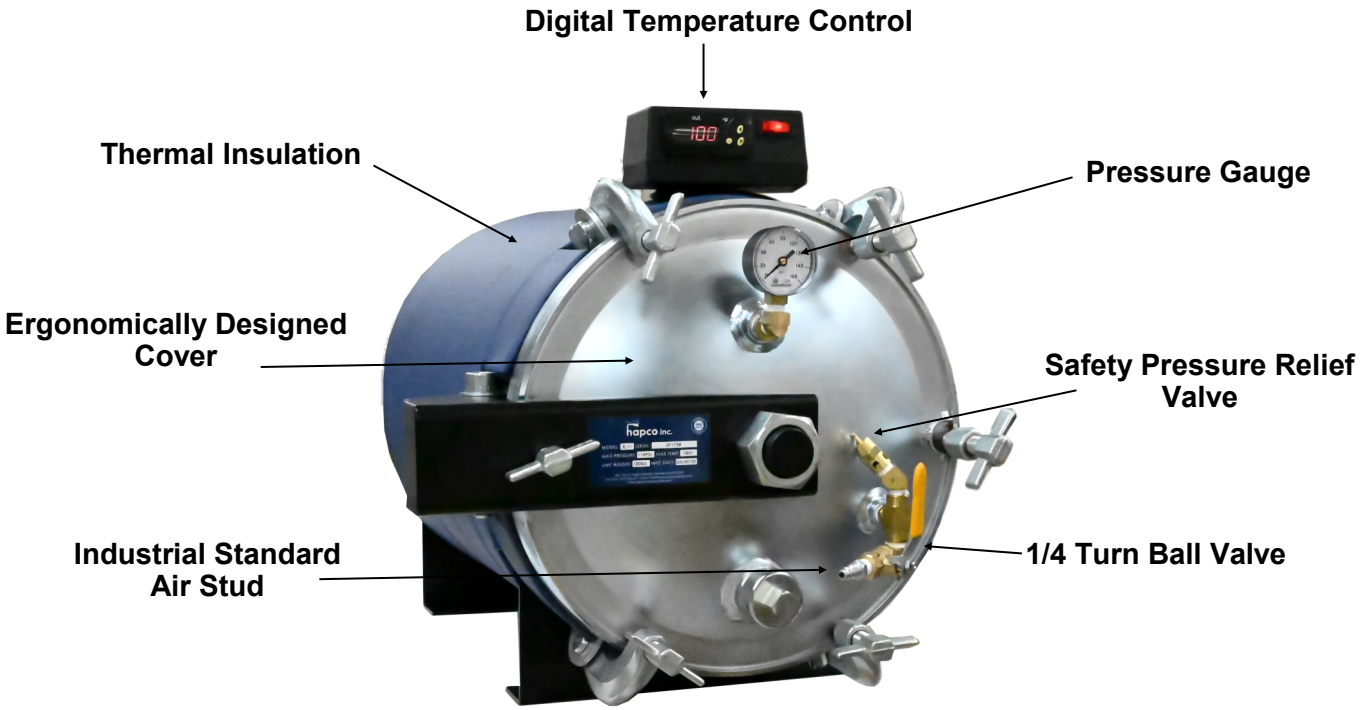
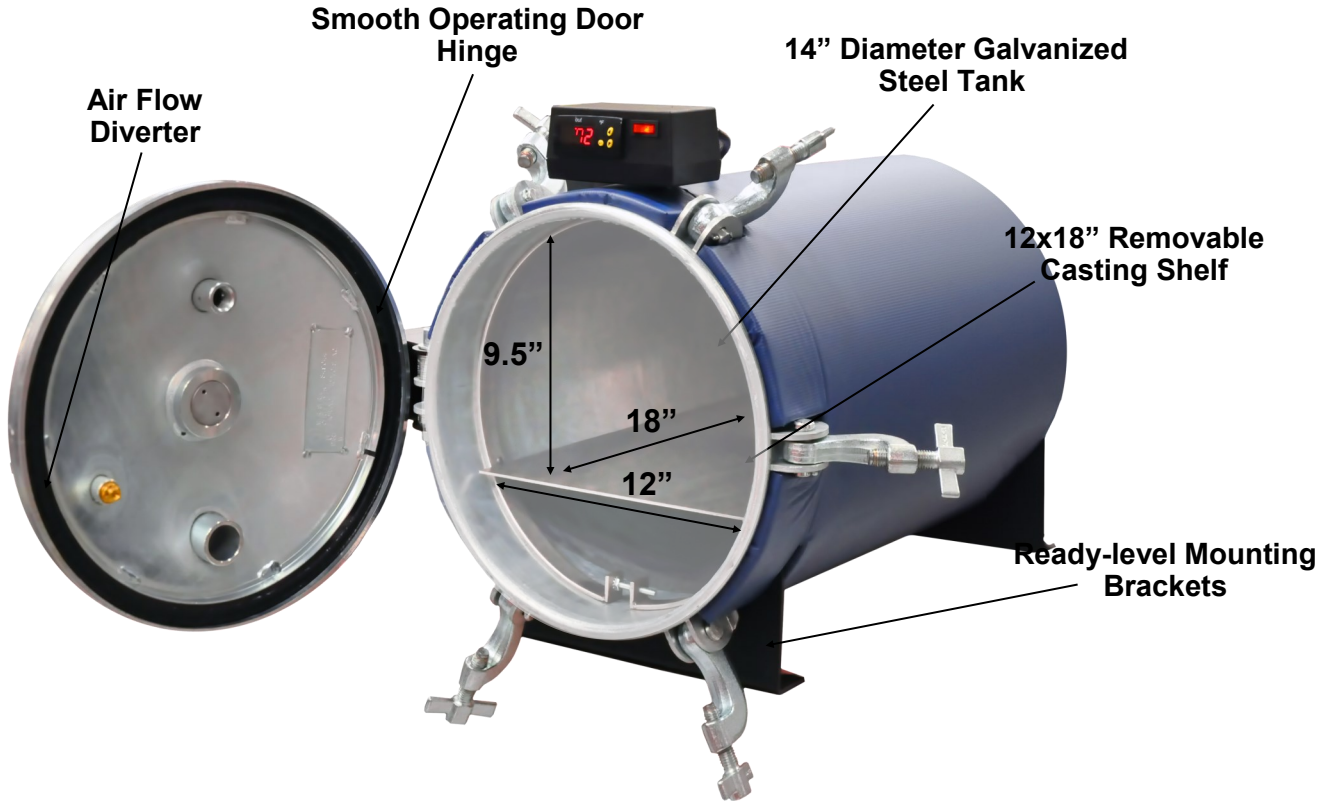
X-11 Features & Specifications

External Dimensions: 25”L x 20.5”W x 20”H
Internal Dimensions: 17”L x 14” Dia.
Shelf Dimensions: 18”L x 12”W (9.5” Shelf to Ceiling)

Maximum Temperature: 180˚F
Maximum Pressure: 110 PSI
Unit Weight: 100 lbs.

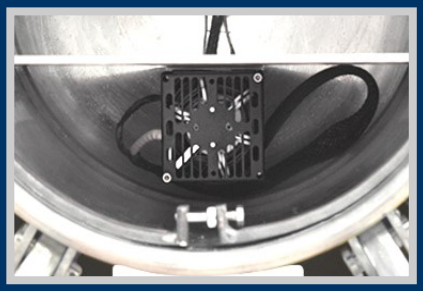




Features

Temperature Control

Digital user control with variable output for precision molding and curing.

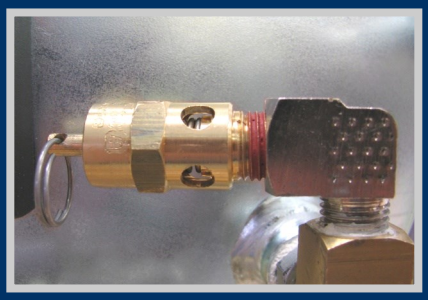


Internal Heating System

Internal heating system circulates heat throughout the chamber, with a max. temp. of 180˚F(82˚C).

Pressure Gauge

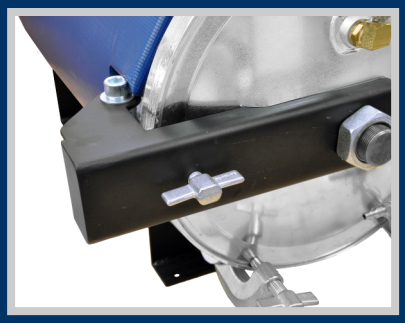
Easy to read 0-150 psi or 0-10 Bar pressure gauge. The tank's maximum pressure is 110 psi.



Pressure Relief Valve

Lets out a quick release of air before the tank's maximum pressure is reached. (110 psi)

Features



Ergonomic Cover

Custom designed, swing open door with bolted hinge and galvanized steel construction.

Thermal Insulation

Fully insulated tank for increased heat retention and energy efficiency.

Removable Shelf

12x18”, stainless steel, removable shelf. The height from the shelf to the ceiling of the tank is 9.5”

Air Flow Diverter

Disperses the inflow of air, preventing the air from disturbing items on the shelf.

Safety & Maintenance

UNIT MAY BE HOT WHEN IN USE!

To ensure the safe and effective operation of the X-11 unit, please adhere to the following guidelines as detailed in this technical user guide:

1. **Mounting the Unit**: The X-11 unit must be securely mounted to a stable surface such as a bench, heavy-duty cart, or another robust structure. Utilize the 3/8” fastening holes located in the base of the unit to achieve a secure mount.

2. **Proximity to Flammable Materials**: It is crucial to keep all flammable materials, including solvents, away from the vicinity of the X-11 unit. Avoid placing any flammable items inside or near the unit.

3. **Clearance for Operation**: Ensure that the area around the X-11 unit provides sufficient clearance, especially for the operation of its swinging lid. This is necessary for safe and unobstructed access.

4. **Power Requirements**: The unit should be positioned within 5 feet of a suitable 15 AMP, 115 VAC electrical circuit. The X-11 unit consumes 220 watts at 120 VAC and 60 Hz. For users outside of regions with this electrical standard, it is your responsibility to acquire an appropriate converter that meets the necessary standards and requirements for operation.

5. **Air Supply**: A reliable source of clean, dry air is required to pressurize the unit effectively.

6. **Safety Precautions Under Pressure**: When the X-11 unit is pressurized, it is mandatory to use a “DANGER DO NOT OPEN” tag on each machine to ensure safety and prevent unauthorized access.

7. **Daily Maintenance**: To maintain the unit in optimal condition, remove debris from the top of the shelf and underneath the unit daily.

8. **Weekly Inspection**: Conduct a thorough inspection of all fittings and valves weekly to check for any pressure leaks.

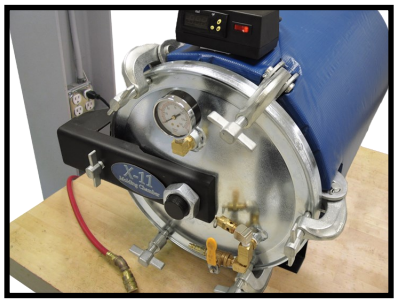
9. **Monthly Maintenance**: Monthly, lubricate the tips and threads of the 6 clamping bolts. Additionally, ensure the cover alignment is correct. For detailed instructions, refer to Page 12 of the manual.

By following these guidelines, you can ensure the safe and efficient operation of the X-11 unit.

Initial Startup Preparation

1. Remove the X-11 from the shipping crate by taking out the screws from the box and unbolting the brackets from the bottom. Inspect the unit for any visible damage during transit and report any issues immediately.

2. Place the unit on a sturdy, level surface close to electrical and air supply. The location should have easy access to the necessary power outlets and air supply connections. Make sure the area is well-ventilated and free of obstructions.



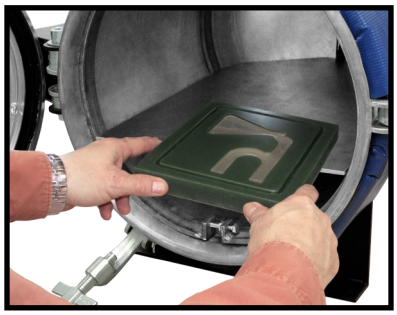
3. Secure the X-11 to the surface using standard bolts in both mounting brackets. Double-check that the X-11 does not wobble or shift when pushed gently.

4. Loosen the swing clamps (6) and open the lid. Rotate the clamps counterclockwise to unlock them. Ensure the lid opens smoothly and there are no obstructions.

The Molding Chamber is now ready to use.

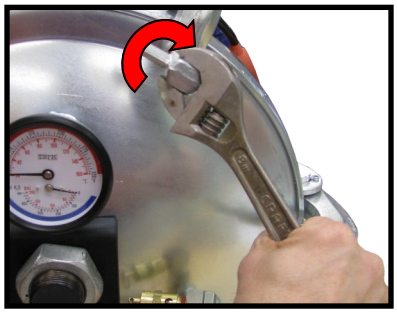
Using The X-11

1. Place molds and parts on the shelf, making sure they are level.

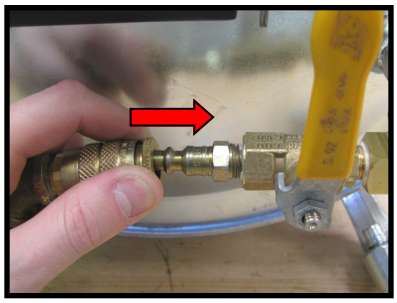


2. Close the lid and **securely** tighten the swinging “C” clamps.

- To prevent the seal from deforming, tighten the clamps in a crisscross sequence as opposed to a clockwise or counter-clockwise sequence. Be careful not to over-tighten.
- Exceeding 200 inch pounds when tightening may distort the gasket and cause damage to the sealing surface.

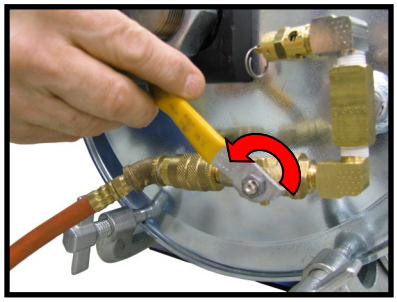


3. Attach the air hose to the unit while in the closed position.

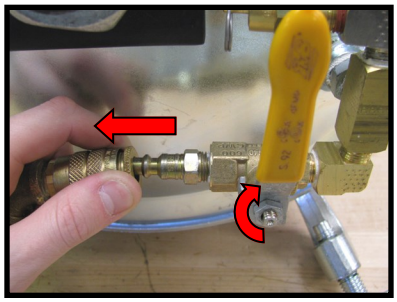


4. **Slowly** open the ball valve until desired air pressure is reached.

70-80 PSI is recommended.



5. When the desired pressure is reached, close the ball valve and remove the air hose.



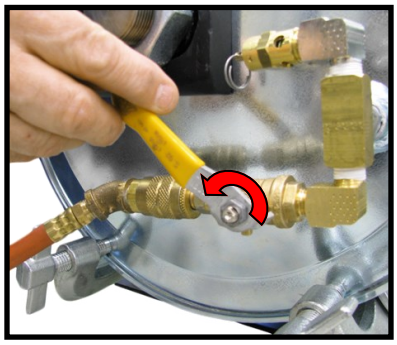
For heating instructions please see page 10.

Using The X-11

Operating the X-11 with both heat and pressure causes expansion and contraction of sealing surfaces throughout the chamber. Under these conditions, it is normal for the tank to lose some pressure over an extended time period. For typical resin curing applications, it is only necessary to maintain pressure until the material has reached it's gel state. In situations where constant pressure must be maintained for the entire cure cycle, we recommend using a pressure regulator and leaving the air hose attached to the chamber.

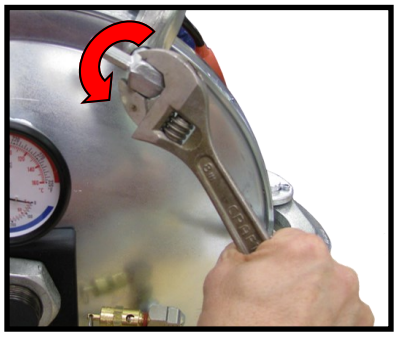
WARNING: DO NOT OPEN DOOR UNTIL PRESSURE HAS BEEN RELEASED!

6. When de-mold time is reached, **slowly** relieve pressure from the tank by turning the valve back to the open position.



EAR PROTECTION or MUFFLER RECOMMENDED!

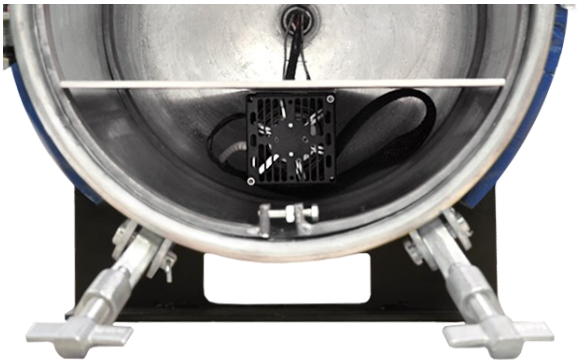
7. Once pressure has been fully relieved, loosen the swing clamps using an adjustable wrench.



8. Open the door and remove the cured items from the unit.

CAUTION: ITEMS MAY BE HOT WHEN REMOVED!

Using The Heating System



The X-11's heating system is digitally controlled and, unlike similar devices on the market, heated from the inside of the chamber. The digital controller allows the user to easily set the tank's temperature while displaying a digital readout of the current temperature. The heater automatically turns off once it reaches the set point and turns back on when it goes below by a few degrees. The maximum operating temperature is 180˚F (82˚C).

1. To turn on the heating system, push the red/orange switch on the right of the unit.

2. To change the temperature, press the SP(Set Point) button **<u>twice</u>.**

3. Using the up and down arrow buttons, change to the desired temperature(ºF) and press the SP button to enter the new value into the controller.

4. To exit the set point function and check the current temperature, press the SP and Down Arrow button **<u>at the same time</u>**.

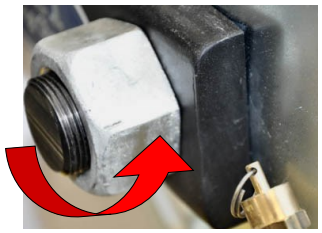
Temperature Conversion Chart

Fahrenheit °F = (1.8 x °C) +32		Celsius °C = (°F-32) x.556	
°C	**°F**	**°C**	**°F**
-65	-85	100	212
-60	-76	105	221
-55	-67	110	230
-50	-58	115	239
-45	-49	120	248
-40	-40	125	257
-35	-31	130	266
-30	-22	135	275
-25	-13	140	248
-20	-4	145	293
-15	5	150	302
-10	14	155	311
-5	23	160	320
0	32	165	329
5	41	170	338
10	50	175	347
15	59	180	356
20	68	185	365
25	77	190	374
30	86	195	383
35	95	200	392
40	104	205	401
45	113	210	410
50	122	215	419
55	131	220	428
60	140	225	437
65	149	230	446
70	158	235	455
75	167	240	464
80	176	245	473
85	185	250	482
90	194	255	491
95	203	260	500

Cover Realignment

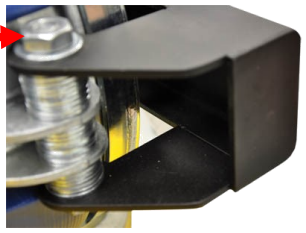
NOTICE: Due to repeated opening/closing, cover may have tendency to loosen over time and cause misalignment. To re-align the cover, follow the steps below.

1.) Slightly loosen center 2.25” bolt and center cover so that it is concentric with the outside diameter of the tank.

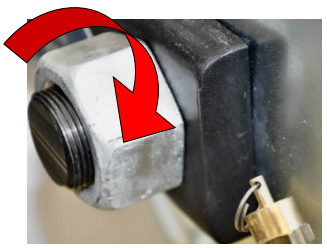


2.) **Securely** tighten the swinging “C” clamps in a crisscross pattern, as you would tightening lug nuts on a tire, **EXCEPT** for the clamp on the hinge arm. (Should remain slightly loosened)

3.) Tighten down the 15/16” vertical bolts that attach the hinge arm to the side of the tank.



4.) Using a large flat jaw adjustable wrench, tighten down the center bolt as securely as possible.



Replacement Parts List

P/N	DESCRIPTION
Y102	5/8” Bolt
Y103	5/8” Washer
Y105	5/8” Hexnut
Y106	3/8” Brass Reducer
Y107	1/4” Air Stud
Y108	Male Ball Valve
Y109	200 Watt Heater
Y110A	3” Fan
Y111	Pressure Gauge
Y116	1/4” Brass Elbow
Y117	1/4” Brass Tee
Y118	3/8” Brass Plug w/ Holes
Y121	18” Hose Clamp
Y122	3/8” Hexbolt
Y123	3/8” Hexnut
Y124	3/8” Flat Washer
Y134	110 PSI Safety Valve
Y135	1.5” Nut
Y136	Clamp Kit
Y137	1/2” x 1/4” Brass Reducer
Y140R	Lid Gasket