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# **TECHNICAL MANUAL**

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## THERMO-FLEXIBLE FABRICATION

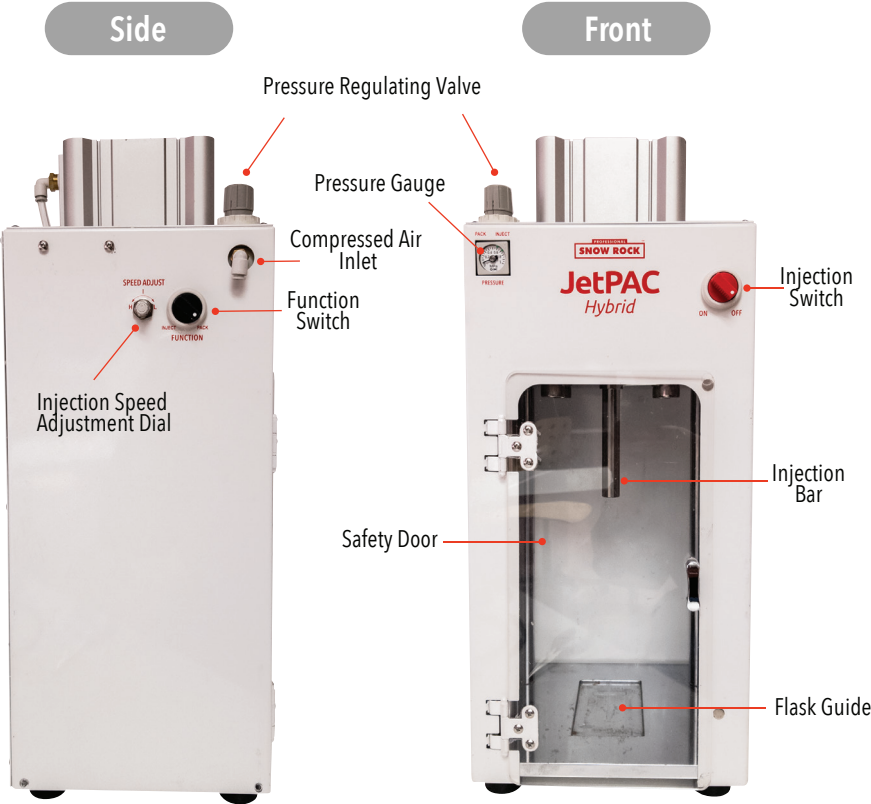
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# EQUIPMENT

## 1 JETPAC HYBRID



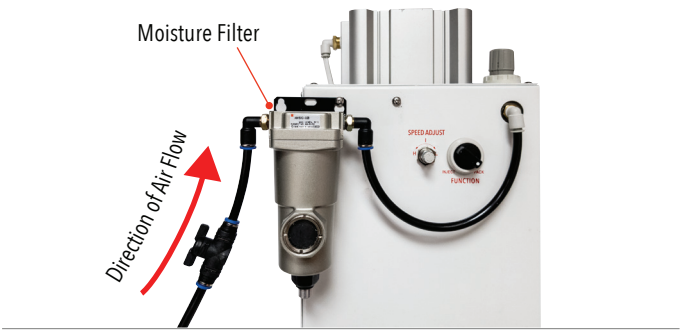
SPECIFICATION	
Size (WxDxH)	11.81 x 10.63 x 24.02inch
	300 x 270 x 610mm
Weight	68lb / 31kg
Air Pressure	90-100PSI

### SAFETY PRECAUTIONS

Recommended: 90 lb Air Tank

# INSTALLATION

- Connect the airline hoses and components as shown in the picture above.
- Make sure to connect the "compressor plug" into the "air compressor hose" last.
- Push the blue ring to the open connector to insert the hose.
- Mount the moisture filter to the wall or side of JetPAC Hybrid.

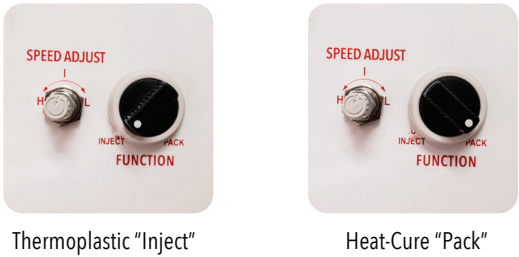


# HOW TO OPERATE

- Once the air tank is connected, push the air pressure cap up and turn it clockwise to set the pressure at 0.7MPa (7 bar, 90~100PSI).



- To switch between flexible thermoplastic and heat-cure acrylic injection, flip black switch between "Inject" and "Pack" respectively.



## 2 JET FURNACE



1. Power On/Off Switch
2. Current Temperature
3. Target Temperature
4. Mode
5. Digit Toggle
6. Count Up & Count Down

### SPECIFICATION

Size (WxDxH)	8.26 x 17.56 x 5inch 210×446×127mm
Weight	24lb / 10kg
Max Consumption	720W
Electricity	100V (50/60Hz) 10Amp

### SAFETY PRECAUTIONS

- Place device away in a dry area from gas and chemicals.
- Confirm grounding plug is plugged in with correct electrical frequency and voltage.
- Make sure that the furnace functions properly with the correct polarity, dial configuration, and meter.
- Do not attempt to convert or remodel this device.
- If there are malfunctions within the device, immediately stop use and contact the manufacturer.
- Mishandling this device may result in malfunctions; therefore, review the proper instructions before use.

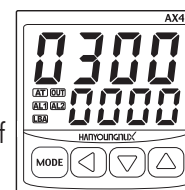
### INSTALLATION

- Plug directly into an AC 110V (10A) electrical socket and confirm that the cord is plugged in securely and correctly. JetFurnace consumes 10A.
- Check that the electricity outlet has enough capacity for this electric current.

## HOW TO OPERATE

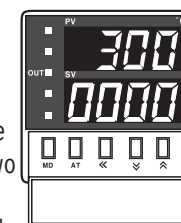
- Switch the power button to 'On'.
- Set the furnace to the desired temperature (e.g. 260°C for AcryFlex, 300°C for FlexFit) using the control panel arrow buttons.
- Toggle through the digits by pressing the left arrow button.
- Change the digit values by pressing the up and down arrow buttons.
- Switch the power button to 'Off' when you finish melting resins to prevent from over-heating on the circuit inside.
- We currently have two different layouts for our control panels on the furnace. However, the function and end result are identical.

### Type A



1. Similarly there will be two sets of numbers the top will be red and the bottom green. Once again the red is the current temperature of the furnace and the green is the target temperature.
2. The arrow keys on the control panel manipulate the green numbers, which ultimately will change to red.
3. The left arrow key is the only directional button on the device. This allows you to jump from number to number on the green number display.
4. The up and down keys manipulate the value of whichever number the left arrow is on.
5. Once you have a set temperature, you just need to click the mode button for the furnace to start working towards the new target temperature.

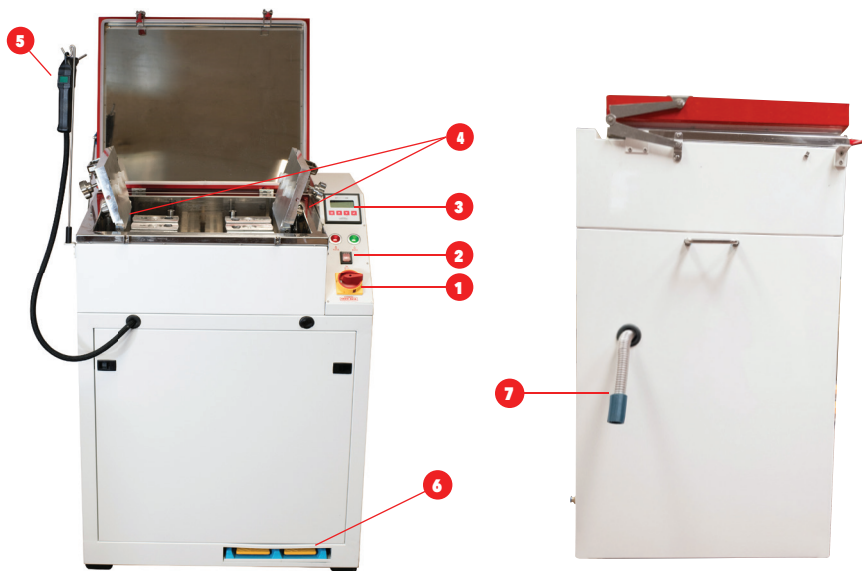
### Type B



1. After the device is on you will see that there are two numbers. One that is green and one that is red. The red number will show where it says PV and the green, SV. The red is the current temperature of the furnace and the green is the target temperature.
2. The arrow keys on the control panel manipulate the green numbers, which ultimately will change the red.
3. The arrow that points left is the only directional button on the device. This allows you to jump from number to number on the SV display.
4. The up and down keys manipulate the value of whatever number the left arrow is on.
5. Once you have a set temperature, you just need to click the MD (mode) button for the furnace to start working towards the new target temperature.



### 3 JETWASHER PRO



1. Main On/Off Switch
2. Operation Switch
3. Control Panel
4. Flask Holders
5. Steam Gun
6. Foot Pedal for Steam Gun
7. Drain Tube

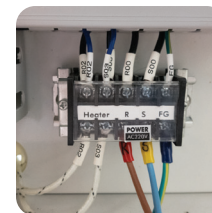
SPECIFICATION	
Size (WxDxH)	29.14x22.05x38.19inch 740x560x970mm
Weight	195lb / 88kg
Max Consumption	3.5kw
Electricity	220V (50/60Hz) 19A Single Phase

#### SAFETY PRECAUTIONS

- Place device away in a dry area from gas and chemicals.
- Confirm grounding plug is plugged in with correct electrical frequency and voltage.
- Make sure that the washer functions properly with the correct polarity, dial configuration, and meter.
- Do not attempt to convert or remodel this device.
- If there are malfunctions within the device, immediately stop use and contact the manufacturer.
- Mishandling this device may result in malfunctions; therefore, review the proper instructions before use.

### INSTALLATION

- JetWasher Pro requires installation parts and service by a professional electrician.
- JetWasher Pro consumes 19A with single phase. Check that the electricity outlet has enough capacity for this electric current.
- Create proper connection between the plug and terminal block on the control board, located on the right side.
- Plug directly into an AC 220V (19A) electrical socket and confirm that the cord is plugged in securely and correctly.
- Connect a cold water line to JetWasher Pro.



- Open the right side of machine where computer mother board is housed and make sure the switch is flipped to "on".
- When using "Jet Flask", insert two Flask Holders in the heating chamber as picture below.



- Put a heat-resistant bucket at the end of the drain tube.
- Make sure the drain tube does not come in contact with the water surface at any point during the drainage process. If the drain tube goes under water surface, it may become clogged with hardened wax.

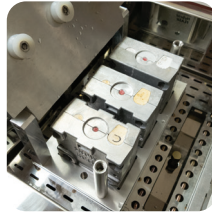


## HOW TO OPERATE

- Turn the main red knob into the "On" position and wait until temperature reaches 135°C - 140°C automatically.



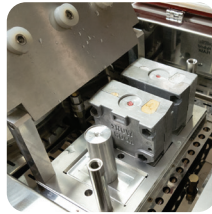
- Open the red hood by flipping the latches upwards.
- Open the flask holders by turning and unscrewing the knobs all the way.
- Insert up to 3 flasks each on either side.



- Make sure the flasks have no screws inside.



- For any empty areas without a flask, place a 'dummy flask cylinder' to equalize the pressure.



- Close the flask holders by turning and screwing in the knobs all the way.



- Close the red hood and flip the latches downwards.



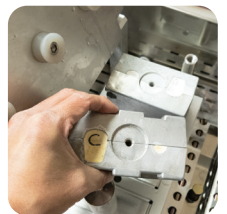
- Before proceeding, make sure the mode is set to "JetWash" by pushing "mode" button on the control panel.



- Press the switch to 'on'.
- Automatic process will follow: warming, steam, wash.



- The machine will make a sound and light up when process is complete.
- Remove flasks and check for any extra wax.



# HEAT-CURE FABRICATION

## 1 WAX DESIGN

- Follow conventional wax design methods.

## 2 TOOTH SETUP

- **QuickBase** or Heat Cure Resin use chemical-bonding, which does not require diatoric holes to be made.
- To increase the bonding strength, you may add retention holes right before injection to artificial teeth or apply Snow Rock's **Resin Primer** onto the teeth surface.
- Arrange the teeth and wax up the gingival area without any change from the standard method.

**IMPORTANT:** Make sure to block out 100% of the undercuts for better fitting and reducing sitting time.

## 3 1<sup>ST</sup> INVESTMENT

- Apply Vaseline or plaster separator to the flask (Recommended: "Foilcote" by Whipmix or "Super-Sep" by Kerr) before investment.

## 4 SPRUING

### 4.1 CHECK VALVE

**IMPORTANT:** While plaster is still soft, place plastic "Check Valve" as main sprue for heat-cure resin injections. This is important so that the "Check Valve" is not set at the wrong angle, which may cause damage later on.

- The Check Valve will allow resin injection to flow in, but prevent back flow out during curing.

- After the 1st investment has fully hardened, fully attach large-sized "7.5mm Sprue Wax" to the "Check Valve" without any space to ensure proper resin delivery.

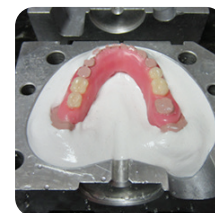
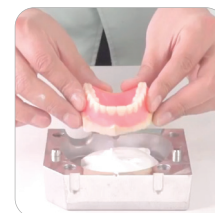
### 4.2 ENTRANCE SPRUE

- Use a 3-pronged pitch-fork sprue entrance design from the entry hole to the lingual area. Use the medium-sized "5.5mm Sprue Wax" in conjunction with the "7.5mm Sprue Wax" main sprue. The prongs can be placed 1cm above the margin of the denture.

- Use plaster (or plaster + lab stone mix for better strength) for 1st investment.
- The layer should be high enough that the sprues will be parallel to the flask holes.

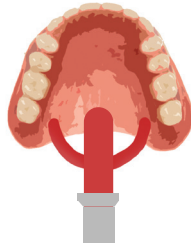
- Place the model towards the front of the flask for enough space to fit the optimal sprue structure.

- Clean up the plaster with water to open up pathways for the entrance sprue, and large investment hole used for 3rd investment stage.
- Make sure that no plaster remains on the flask surface to create a tight fit with the opposing half flask.



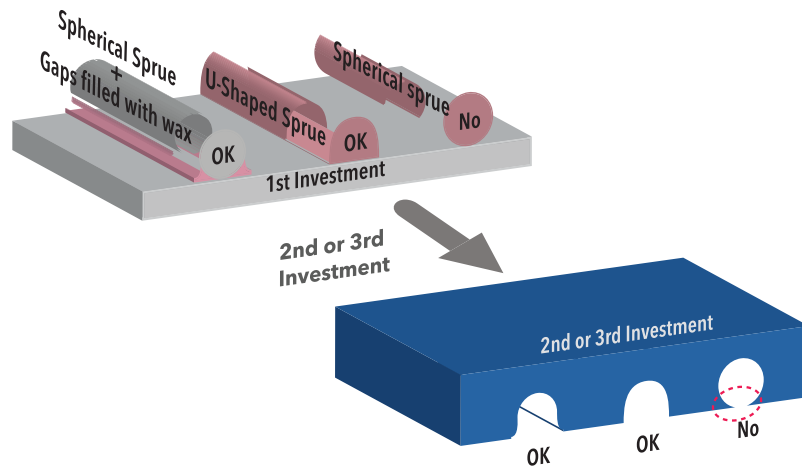
### 4.3 EXIT SPRUE

- No exit sprue is necessary for Heat-Cure material.



### 4.4 SPRUE TIPS

- When using a spherical sprue, use wax to fill the gaps underneath to prevent stone from entering the injection like below.



### 4.5 APPLYING STONE SEPARATOR

- Coat the stone separator onto the waxed denture and surrounding stone surface for a cleaner divestment later on.

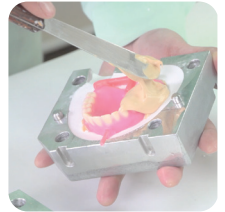


## 5 2<sup>nd</sup> INVESTMENT

**MOST IMPORTANT for best fit:** Cover the exposed waxed denture with a hard die stone. Use a Type 4 (Die Stone), low-expansion, hard stone for best results. i.e. Whip Mix Silky Rock high strength, low porosity, and low expansion rate (0.08-0.09% Max)



- The layer must be airtight to ensure the wax will leave behind the correct mold for the resin to fill in.



- Before the stone sets, sweep away stone with a finger to expose the tips of the teeth.



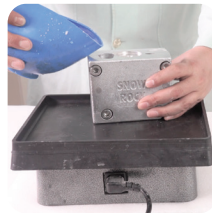
- Apply standard super glue to the tips of the teeth in stone to prevent teeth movement during dewax with "Jet Washer Pro" or Injection.





## 6 3<sup>rd</sup> INVESTMENT

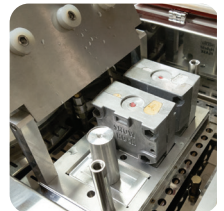
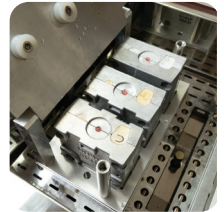
- Before 2nd investment has hardened, 3rd investment can be applied.
- Enclose the two flask halves and screw it down tightly using 2 screws without any gaps.
- Mix a loose mixture of hard Die Stone + Plaster (an approximate 1:1 ratio) to pour into the flask.
- Use a vibrating platform to ensure full coverage and no bubbles.



## 7 DE-WAXING / WAX BOILOUT

### 7.1 WITH JetWasher Pro

- Turn the main red knob into the "On" position and wait until temperature reaches 135°C - 140°C automatically.
- Open the red hood by flipping the latches upwards.
- Open the flask holders by turning and unscrewing the knobs all the way.
- Insert up to 3 flasks each on either side.
- Make sure the flasks have no screws inside.
- For any empty areas without a flask, place a 'dummy flask cylinder' to equalize the pressure.
- Close the flask holders by turning and screwing in the knobs all the way.
- Close the red hood and flip the latches downwards.



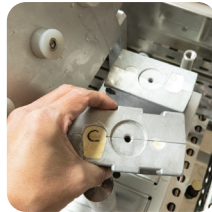
- Before proceeding, make sure the mode is set to "JetWash" by pushing "mode" button on the control panel.



- Press the switch to 'on'.
- Automatic process will follow: warming, steam, wash.
- The machine will make a sound and light up when process is complete.

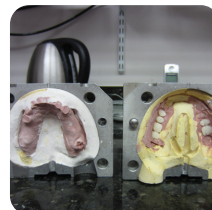
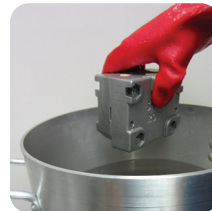


- Remove flasks and check for any extra wax, and use
- Close the red hood and flip the latches downwards. Includes steam gun to clean if necessary.



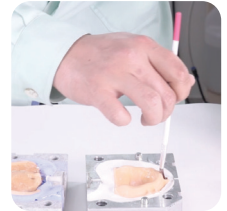
## 7.2 WITH CONVENTIONAL BOILOUT METHOD

- Wait until the investment materials have fully solidified (duration will vary by material).
- Unscrew the flask before putting in boil out tank (flask will still be held together by solidified material).
- Place the flask in boiling water until the wax is completely melted out.
- Separate the flasks and pour additional hot water over remaining wax.



## 8 RESIN SEPARATOR

- Open the flask and apply a thin coat of **Resin Sep** resin separator onto the stone with a brush.



- Stand up the flasks and make sure to fully, thoroughly dry using a fan.



- Enclose the two flask halves and screw it down tightly using 4 screws without any gaps.



## 9 DENTURE RESIN PREPARATION

- Place the liquid into a container first, then add the powder to the liquid.
- The standard powder/liquid mixing ratio should be 32cc/10ml.



Use case ratios of Powder(cc) and Liquid (ml):

- Small - 22:7
- Medium - 29:9
- Large - 35:11
- X-Large - 45:14

- Mix powder and liquid together for 10 to 15 seconds.
- After mixing, wait approximately 10-15 minutes for the material to become 'dough-like' or 'snappy' to be able to pack.



## 10 PROCESSING & INJECTION

### 10.1 INJECTION USING JetPAC Hybrid

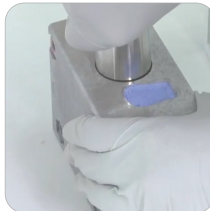
- Place the resin material into the metal cylinder.



- Push the metal disk into the cylinder until it makes contact with the material.



- Connect the metal cylinder to the flask and twist for better contact.



- Place flask inside the "JetPAC Hybrid".



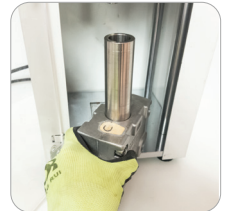
- Check if black switch is set to "PACK" for Heat-Cure material



- Flip red switch to "On" to inject the material into the flask, and let it remain for 30-45 sec.



- Flip red switch to "Off" to raise the piston.
- Remove the flask from the machine.

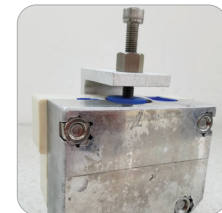


### 10.2 CONVENTIONAL PRESS PACKING

- Press pack using conventional methods.

## 11 PRE-CURING PRESSURIZATION

- Take off the cylinder.
- If you don't use 'CheckValve' method, use blue plastic seal on each flask to cover inlet hole and secure the metal clamps(jig)on top of it by screwing down before placing into curing tank.



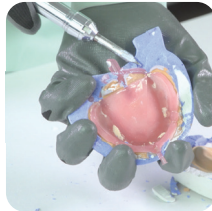
## 12 CURING

- Let boiling water reach 100° C before dropping flasks inside.
- Insert flasks and maintain the temperature for 10 minutes for "QuickBase".
- When using other materials, maintain temperature and time according to manufacturer's suggestion.



## 13 COOLING AND DEFLASKING

- After curing is complete for heat-cure, take out the flasks from the water bath and bench cool for 20 minutes at room temperature. If necessary, plunge flask into cold water for further cooling.
- Unscrew the bolts from the flask using a hex wrench or a similar tool.
- Hit the exposed corner to separate the flask in two.
- Hit the corner again to loosen the stone from the flask after the flask has been separated.
- Use a chisel-like tool to remove the stone surrounding the denture.
- Use gypsum remover if necessary



## 14 GRINDING AND FINISHIN

### 14.1 GRINDING

- Cut the sprues using a disc.
- Grind using a denture burr.
- Smooth the surface using a polishing wheel.
- No special burs and tools necessary.



**IMPORTANT:** While finishing heat-cure dentures, try to avoid excess heat build-up onto the denture, to prevent distortion.

### 14.2 FINISHING

- Polish with pumice at high speed.
- Add high-gloss shine using lathe at low speed.
- Can use existing traditional tools for grinding and polishing tools as usual.
- No special tools and materials necessary.



### 15 FINISHED





## THERMO-FLEXIBLE FABRICATION

### 1 DRYING

- **FlexFit, ClearFit, AcryFlex** should be dried before fabrication to remove moisture, preventing air bubbles during processing.
- A variety of non-commercial dryers, such as ovens, skillets, and toasters, may be used.

#### Dryer Requirements:

- Constant 'On' function for 4-6 hours and timer is recommended.
- 85-100°C (185-212°F) range is recommended.
- Ventilation function/slots for moisture dissipation.



Non-commercial



Commercial

#### Drying Conditions:

85~100°C (185~212°F)	2~6 hours minimum
40~50 °C (104~122°F)	Continuous Dry Storage

- Drying can be mass-dried once and kept inside dryer over multiple days or done each time on same day of processing.

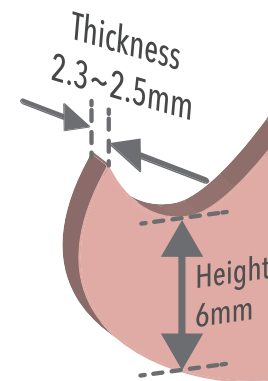
## 2 WAX DESIGN

- Engage the distal and mesial corner when creating the clasp design and create a continuous extension from the main body of the denture rather than detaching the clasp.

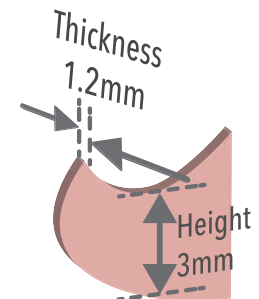


**IMPORTANT:** Make sure to 100% fully block out undercuts to prevent stress on the clasp area.

- Overall thickness of the AcryFlex denture itself should be 2.5-3.0mm and the final thickness of the denture after finishing should be no less than 2.0mm.
- FlexFit thickness can be made like other flexibles and about half the thickness of AcryFlex.
- Final clasp thicknesses should be made like below.



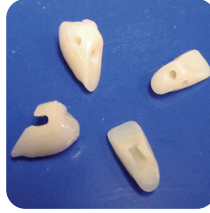
AcryFlex



FlexFit

### 3 TOOTH SETUP

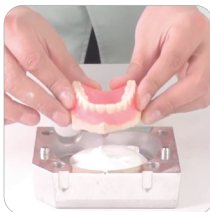
- When using **FlexFit**, **ClearFit** or **AcryFlex**, diatoric holes will be necessary.
- Use Snow Rock "**X-Grip**" Pre-Diatoric teeth for ease of use.
- For other teeth, we recommend creating diatoric holes in the middle and sides of each tooth.
- **AcryFlex** is recommended to have slightly larger holes than **FlexFit**.
- Arrange the teeth and wax up the gingival area without any change from the standard method.



**IMPORTANT:** Make sure to block out 100% undercuts for better fitting and reducing sitting time.

### 4 1<sup>ST</sup> INVESTMENT

- Apply Vaseline or plaster separator to the flask (Recommended: "Foilcote" by Whipmix or "Super-Sep" by Kerr) before investment.
- Use plaster (or plaster + lab stone mix for better strength) for 1st investment.
- The platform should be high enough that the sprues will be parallel to the flask holes.
- Place the model towards the front of the flask for enough space to facilitate the optimal sprue structure.



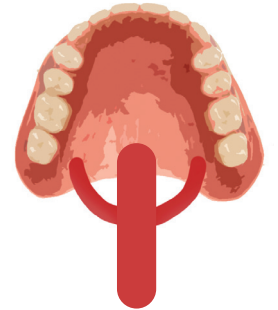
- Clean up the plaster so that the entire investment is level with the flask plane.
- Make sure to open up pathways for the entrance sprue, and large investment hole used for 3rd investment stage.
- Also make sure that no plaster remains on the flask surface to create a tight fit with the opposing half flask.
- Make sure to open up pathways for the exit sprue.



### 5 SPRUING

#### 5.2 ENTRANCE SPRUE

- Use a 3-pronged pitch-fork sprue entrance design from the entry hole to the lingual area. Use the medium-sized "5.5mm Sprue Wax" in conjunction with the "7.5mm Sprue Wax" main sprue. The prongs can be placed 1cm above the margin of the denture.



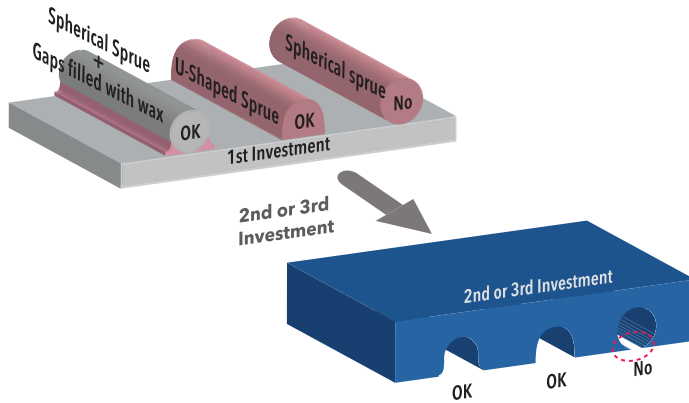
#### 5.3 EXIT SPRUE

- Create another 3-pronged pitch-fork sprue design for the exit hole with 2 separate "4.0mm Sprue Wax", to ensure material aeration inside the flask during injection to prevent air bubbles. Check that the two "4.0 mm Sprue Wax" do not touch the inner flask rim.



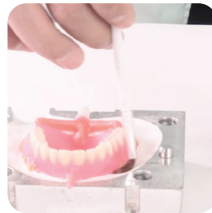
## 5.4 SPRUE TIPS

- When using a spherical sprue, use wax to fill the gaps underneath to prevent stone from entering the injection like below.



## 5.5 APPLYING STONE SEPARATOR

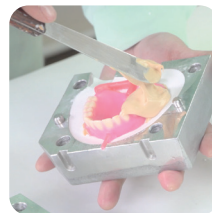
- Coat the stone separator onto the waxed denture and surrounding stone surface for a cleaner divestment later on.



## 6 2<sup>nd</sup> INVESTMENT

**MOST IMPORTANT for best fit:** Cover the exposed waxed denture with a hard die stone. Use a Type 4 (Die Stone), low-expansion, hard stone for best results. i.e. Whip Mix Silky Rock high strength, low porosity, and low expansion rate (0.08-0.09% Max)

- The layer must be airtight to ensure the wax will leave behind the correct mold for the resin to fill in.



- Before the stone sets, sweep away stone with a finger to expose the tips of the teeth.



- Apply standard super glue to the tips of the teeth in stone to prevent teeth movement during dewax with "Jet Washer Pro" or Injection.



## 7 3<sup>rd</sup> INVESTMENT

- Before 2nd investment has hardened, 3rd investment can be applied.
- Enclose the two flask halves and screw it down tightly using 2 screws without any gaps.



- Mix a loose mixture of hard Die Stone + Plaster (an approximate 1:1 ratio) to pour into the flask.



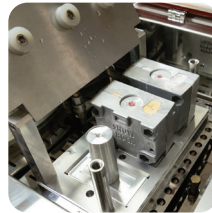
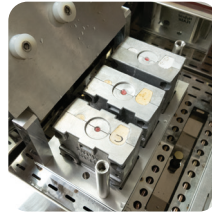
- Use a vibrating platform to ensure full coverage and no bubbles.



## 8 DE-WAXING / WAX BOILOUT

### 8.1 WITH JetWasher Pro

- Turn the main red knob into the "On" position and wait until temperature reaches 135°C - 140°C automatically.
- Open the red hood by flipping the latches upwards.
- Open the flask holders by turning and unscrewing the knobs all the way.
- Insert up to 3 flasks each on either side.
- Make sure the flasks have no screws inside.
- For any empty areas without a flask, place a 'dummy flask cylinder' to equalize the pressure.
- Close the flask holders by turning and screwing in the knobs all the way.
- Close the red hood and flip the latches downwards.



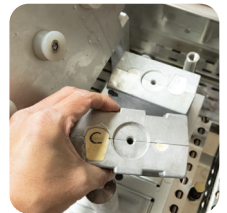
- Before proceeding, make sure the mode is set to "JetWash" by pushing "mode" button on the control panel.



- Press the switch to 'on'.
- Automatic process will follow: warming, steam, wash.
- The machine will make a sound and light up when process is complete.

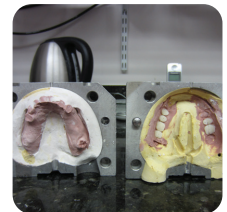


- Remove flasks and check for any extra wax, and use
- Close the red hood and flip the latches downwards. Includes steam gun to clean if necessary.



### 8.2 WITH CONVENTIONAL BOILOUT METHOD

- Wait until the investment materials have fully solidified (duration will vary by material).
- Unscrew the flask before putting in boil out tank (flask will still be held together by solidified material).
- Place the flask in boiling water until the wax is completely melted out.
- Separate the flasks and pour additional hot water over remaining wax.





## 9 RESIN SEPARATOR

- Open the flask and apply a thin coat of "Resin Sep" resin separator onto the stone with a brush.
- Stand up the flasks and make sure to fully, thoroughly dry using a fan.



- Enclose the two flask halves and screw it down tightly using 4 screws without any gaps.

## 10 DENTURE RESIN PREPARATION

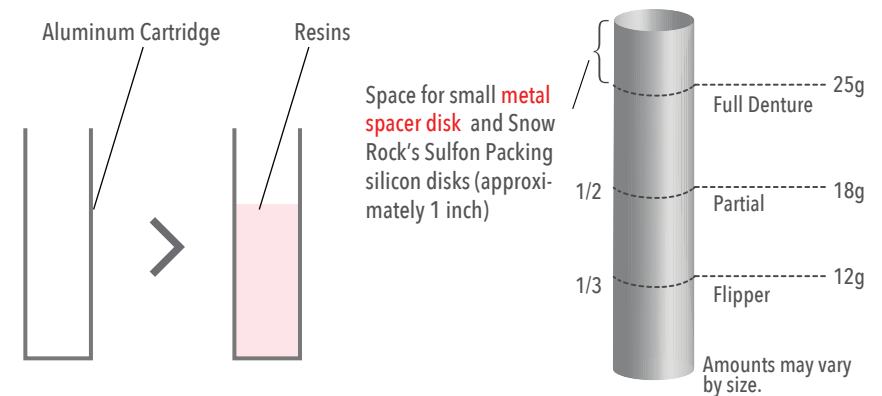
- Turn on the "Jet Furnace" or "Jet Furnace Duo" and set the proper melting temperature.
- Insert the large metal cylinder(s) into the "Jet Furnace" or "Jet Furnace Duo".
- Wait approximately 20-30 minutes for the furnace to fully reach temperature.



### Our resin melting conditions:

AcryFlex	260 °C (500 °F)	25 minutes
FlexFit	300 °C (572 °F)	20 minutes

- Re-shape the aluminum tube using "Pressurization Bar" if tube is deformed.
- Fill the aluminum cartridge with the dehydrated resins to the desired level.



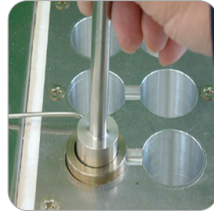
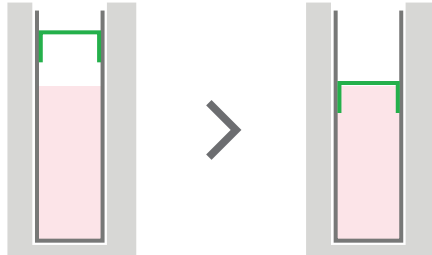
- Place the aluminum cartridge cap inside the cartridge.



- Apply a thin coat of silicon spray outside the aluminum cartridge to prevent adhering later.



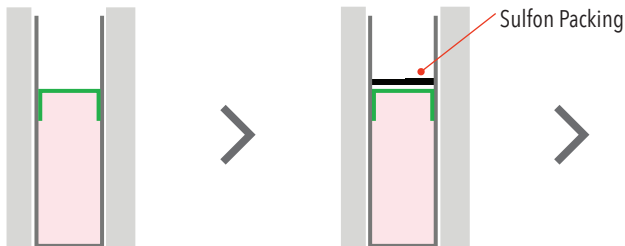
- Once furnace has reached desired temperature, place aluminum cartridges inside the metal cylinders within the furnace.
- Push down with the pressurization bar after 5 min.



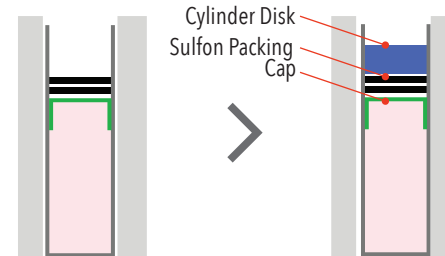
## 11 PROCESSING & INJECTION

### 11.1 INJECTION USING JetPAC Hybrid

- Right before injection, push two pieces of Snow Rock's "Sulfon Packing" silicon disks down into the aluminum tube with the pressurization bar, one at a time. This will help prevent the resin from bubbling, and create pressure later during injection.



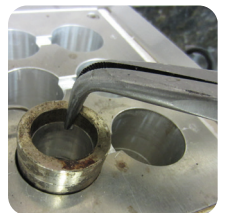
- Push it down again before 3min of the finishing melting.
- Place the cylinder disk (metal nugget) on top of the aluminum cartridge inside the cylinder. Wait for the resin to melt according to the chart in the previous page.



- Push down metal disks and silicon disks again before injection if necessary.



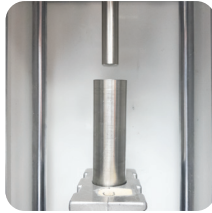
- Once everything has been inserted, grip the metal cylinder simultaneously with the aluminum tube and pull out together using L-Shaped pliers or other tool.



- Insert the flask into the injector JetPAC Hybrid.
- Set the cylinder on top of the Jet flask.
- Make sure the metal cylinder is balanced on top of the Jet Flask.



- Make sure the metal cylinder and the inner piston rod in the JetPAC Hybrid are aligned.



- Check if black switch is set to "INJECT" for Flexible material
- Flip red switch to "On" to inject the material into the flask, and let it remain for 30-45 sec.
- Flip red switch to "Off" to raise the piston.
- Remove the flask from the machine.



## 12 COOLING AND DEFLASKING

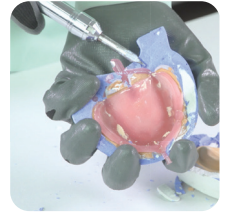
- After curing is complete for heat-cure, take out the flasks from the water bath and bench cool for 20 minutes at room temperature. If necessary, plunge flask into cold water for further cooling.
- Take off the cylinder after bench cool for 20 minutes at room temperature.
- Separate the cylinder from the flask with a wooden hammer or rubber mallet. Attempting cylinder separation when not fully cooled may cause increased difficulty.



- Unscrew the bolts from the flask using a hex wrench or a similar tool.
- Hit the exposed corner to separate the flask in two.
- Hit the corner again to loosen the stone from the flask after the flask has been separated.



- Use a chisel-like tool to remove the stone surrounding the denture.
- Use gypsum remover if necessary



## 13 GRINDING AND FINISHING

### 13.1 GRINDING

- Cut the sprues using a disc.
- Grind using a denture burr.
- Smooth the surface using a polishing wheel.
- No special burrs and tools necessary.



**IMPORTANT:** While finishing heat-cure dentures, try to avoid excess heat buildup onto the denture, to prevent distortion.

### 13.2 FINISHING

- Polish with pumice at high speed.
- Add high-gloss shine using lathe at low speed.
- Can use existing traditional tools for grinding and polishing tools as usual.
- No special tools and materials necessary.



## 14 FINISHED



# REPAIR

## 1 REPAIRING ACRYLIC DENTURES

- AVOID CONTACT WITH WATER AT 70°C (158°F) OR HIGHER. It may become fragile, causing cracks and chips. When cleaning with a steam cleaner, make sure the nozzle is at least two inches away from the denture. Do not polish with an automatic polishing machine as it can run at temperatures higher than 70°C. Do not sterilize our resins in an AUTOCLAVE. DO NOT USE SOLUTIONS WITH 60% OR HIGHER ALCOHOL CONTENT. It will bleach the denture's surface. You may use sterilizing alcohol with less than 60% concentration.

### 1.1 REPAIRING CLASPS WITH PRE-MADE CLASPS AND TURBOFIX



#### PREPARING THE DENTURE:

- Shave the area of repair on the body of denture. Create a fixing point and drill retention
- Holes in the area of repair. Sand blast the AcryFlex Pre-made Clasp to ensure
- Mechanical retention.



#### PREPARING THE CLASP:

- Heat the clasp with the heat gun for 20 to 30 seconds. The clasp is ready for shaping when the clasp arm feels warm.
- Keep the clasp in the center of the ring.



#### ATTACHING THE CLASP:

- Only apply resin separator on the stone that will come into contact with the denture.
- Use a self-cure repair resin such as TurboFix or a cold-cure repair resin to attach the clasp onto the repair area.
- Press the clasp onto the model and shape as necessary.



#### RE-SHAPING AND POLISHING:

- Re-adjust the retention of the clasps with the heat gun again for better fit. Grind the
- Inner curve or tips of the clasp to achieve the ideal size. Polish as normal.



### 1.2 REPAIRING BY RE-INJECTION

#### PREPARING THE DENTURE:

- Shave the area of repair on the body of denture. Create a fixing point and drill retention
- Holes in the area of repair. Sand blast the AcryFlex Pre-made Clasp to ensure
- Mechanical retention.



#### WAX DESIGN:

- Redesign by using the pick-up method and create a wax pattern.
- Insert sprue wax and complete the investment process.



#### RE-INJECTION:

- Create a new clasp using AcryFlex through a re-injection process.

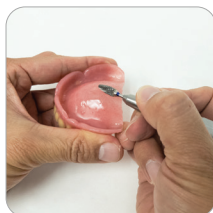
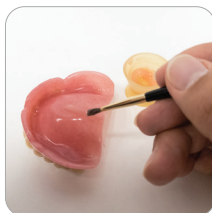
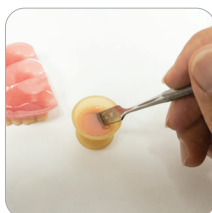
**IMPORTANT:** Dewaxing method using **Jet Washer Pro** should not be used in this instance because dewaxing will heat the dentures to above 70°C (158°F).





### 1.3 REPAIRING FRACTURES WITH TURBOFIX

- Pour Snow Rock's **TurboFix** liquid into a small rubber mixing bowl or dappen dish. Add Snow Rock's **TurboFix powder** using an approximate ratio of 1:1.
- Add more **TurboFix liquid** to increase manageability if necessary.
- Mix until the material resembles a soft, chewing-gum-like consistency. Smooth out the mixture on a flat surface to remove bubbles within the mixture.
- Apply the mixture on the area of repair. Add **TurboFix liquid** to soften and reform the area if necessary.
- Warm or hot water can be used to accelerate the curing process.
- Curing will take approximately three minutes.
- Polish and finish as needed!



### 1.4 REPAIRING FRACTURES WITH CONVENTIONAL WAY

- **AcryFlex** and **QuickBase** can be readily repaired using any traditional cold-cure/self-cure method.

### 1.5 RELINING WITH TURBOFIX

- Use Snow Rock's **TurboFix** to easily reline with brush-bead or dough techniques using the same instructions in the repairing with **TurboFix** section above.

### 1.6 RELINING WITH CONVENTIONAL WAY

- **AcryFlex** and **QuickBase** can be readily relined using relining resin.
- We strongly recommend using mesh shaped reinforcement lines for overdentures.
- When using relining materials, use the material in accordance with instructions.
- When using hard relining materials, cracks and chips may occur when placed on top of flexible area.
- Do not use hard relining materials inside the clasp arm, as this may cause defects during the detaching process.

### 1.7 MAKING ADJUSTMENTS

- By taking advantage of plasticity of **AcryFlex**, technicians can adjust the clasp by using a heat gun.



- After heating, shape the clasp with your fingers and then dip in cold water to set.



## 2 REPAIRING FLEXFIT DENTURES

- Heat up the flask to 55°C (131°F) before injection.
- Do not use an automatic polishing machine (tumbler polishing machine).
- Recommended silicone-based soft-reline products:
- GC Reline Soft | Kettenbach Mucopren Soft
- Neo Evatouch Super | Tokuyama Sofreliner

### 2.1 RELINING WITH RELINING PRE-PRIMER

- Shave the area of repair on the body of denture. Create a fixing point and drill
- Relining Pre-Primer is a chemical that gives "FlexFit" full relining capability.
- It is used to prime "FlexFit" for the application of a silicone-based soft liner or self-curing resin like "TurboFix".
- Create an impression using silicone-based impression material or an appropriate test material.
- Use the denture as a tray or obtain a pick-up impression.



- Make a model by adding plaster (gypsum).
- Control the model's shape by using a trimmer.



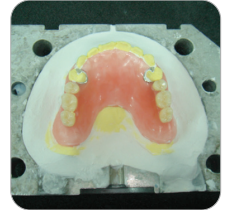
- Remove the impression materials and adjust the margins.
- Fill the wax into any voids.



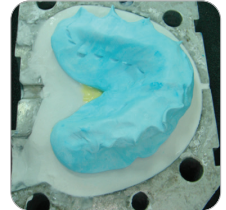
- At this point, the plaster core can be formed.
- By using the occlusion method, FlexFit can be relined.



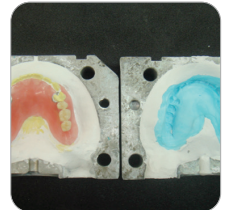
- Place the dentures on the bottom half of the flask.
- Fill in the under cuts with plaster as much as possible.
- After the plaster has hardened, apply the plaster separating the medium on the surface of the first plaster deposit.



- Coat the denture and its under cuts with silicone-based molding material.
- Create under cuts on the silicone-based molding material.
- This is necessary for interlocking the second investment with the silicone-based molding material.
- Pour in the second investment of plaster.
- The silicone-based molding material and the second investment of plaster will adhere to one another.



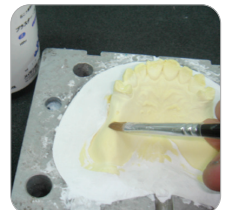
- Open up the flask after the second investment of plaster has hardened.



- Remove the impression materials covering the denture's gingival side.
- This will leave space for the relining material.



- On the surface of the plaster impression model, apply the plaster hardener.
- The plaster hardener will produce a clean area for relining.



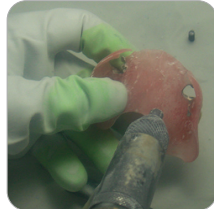
- Carve grooves into the denture while keeping the space necessary for relining.



- Cut out uneven protrusions to make the grooves smooth.
- This insures that there is adequate spacing for the relining materials.



- Sand blast the gingival side.



- After cleaning the dentures with a neutral detergent and brush, wash it in water.
- Clean the dentures with an ultrasonic cleaner.



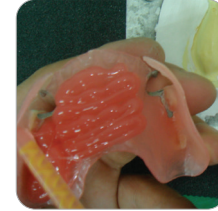
- Apply the Relining Pre Primer twice.
- Wait 30 seconds before applying the second coat.
- After applying the Relining Pre Primer, leave it on for at least 40 minutes.



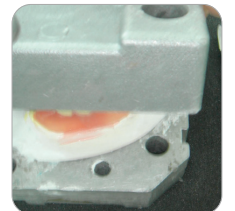
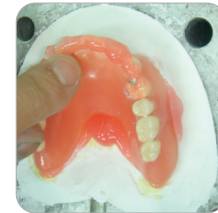
- Apply the adhesive that is exclusively made for the silicone-based reline material.
- Please follow the manufacturer's direction for the method of applying the primer. A sufficient amount should be applied to the denture's relining surface.



- Invest silicone-based relining materials to the denture's relining surface and to the model's surface.



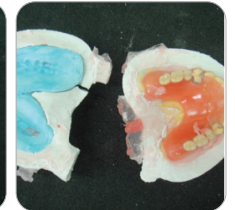
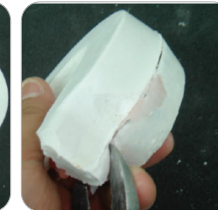
- In order to prevent the formation of air bubbles, press down on the model to let the relining material adhere to the model's surface.
- Discard any surplus relining materials.
- Cover the dentures with the flask's upper half.



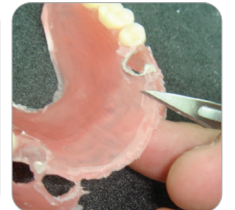
- Tighten bolts into the flasks, starting from the anterior side.
- After closing the flasks, leave it to set for at least one hour.



- Deflask after letting the dentures set for one hour.



- Using delicate instruments such as a scalpel or surgical knife, discard the surplus relining materials.





- Complete the process by polishing the finished product in accordance with the relining material manufacturer's instructions.
- When polishing dentures, be careful not to shave off the relining materials in area of juncture.



- Completed.



## 2.2 MODIFICATION USING SUPER PRIMER

- Super Primer is a priming material for "FlexFit" modifications. It allows the user to create prosthetic extensions with "FlexFit" after fabrication through re-injection.



- You can create an extension after fabrication with "FlexFit" dentures.
- In this example, we will extend the clasp to the left side's 5th top tooth and add on prosthetic teeth on the left side's 3rd bottom tooth.



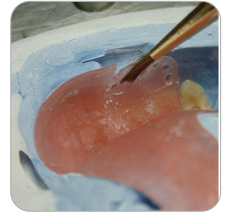
- Shave off some parts of the body (shave it as wide as possible) and create a fixing point by shaving from the cheek side and the membrane side of the dentures.



- In order to repair the clasp, create three holes to adhere the new clasp.



- After de-waxing, open the flask and apply the Super Primer onto the target area of modification.
- After applying the Super Primer, wait about 30 minutes to an hour before injecting.



- When the injection molding process is finished, take the dentures out from the flasks.



- After cutting the sprue wax, start polishing the dentures.
- The denture is finished with a prosthetic extension and a new clasp.



## 2.3 MAKING ADJUSTMENTS

- By taking advantage of plasticity of **FlexFit**, technicians can adjust the clasp by using a heat gun.



- After heating, shape the clasp with your fingers and then dip in cold water to set.

