

# GLASS TEMPERING AND FABRICATION EQUIPMENT



**THE  
DIFFERENCE  
IS CLEAR.**

A division of **Salem Fabrication Technologies Group, Inc.**

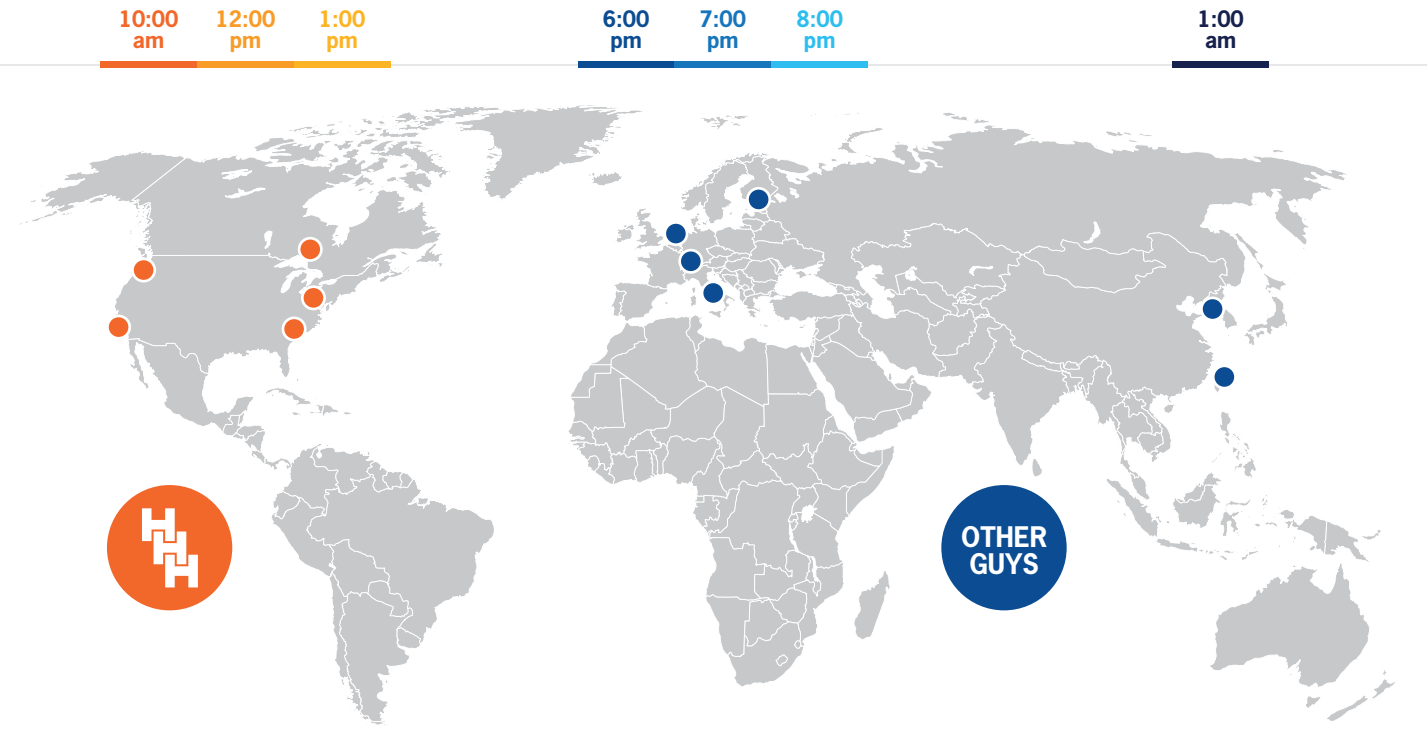
**[HHHGlassEquipment.com](http://HHHGlassEquipment.com)**

# THE DIFFERENCE IS CLEAR.

HHH Equipment Resources, the machinery division of Salem Fabrication Technologies Group, Inc. is a leading distributor of glass tempering furnaces and fabrication equipment with over 125 years of experience in the industry. In addition to equipment, our technical team provides layout consulting, installation, training, maintenance agreements and on-going support to satisfy all fabricators' needs. With HHH, the difference is clear. All of our equipment is backed by industry-leading technical service that includes:

- A technical team of 23 highly trained technicians
  - 5 service centers across the East and West Coasts
  - On-demand maintenance using VPN
- U.S.-based technical support
  - Full parts stocking
  - 24/7 service

## HHH Support Response Time vs. Competitors




## GLASS EQUIPMENT MAINTENANCE AGREEMENTS

One-size-fits-all doesn't work for glass fabricators. Your business goals, facility size, machinery and workforce determine your maintenance needs. With an equipment maintenance agreement from HHH Equipment Resources, you can schedule maintenance based on production and keep your facility in peak productivity.

HHH Equipment Resources also offers master service agreements for edgers, bevelers, CNC machines and more with a 19-point inspection.

- ✓ Reduce downtime costs
- ✓ Increase productivity
- ✓ Avoid order backlogs

### Preventative Maintenance Plan Features

	 TIER 1: The "Tune Up"	 TIER 2: Stand-by Support	 TIER 3: Peak Performance
Remote support service	✓	✓	✓
Discount on parts and labor	5%	10%	15%
Number of maintenance visits	Annually	Bi-annually	Quarterly
Number of in-person maintenance days	2	4	8
Inspection scope	67-point furnace inspection	93-point furnace inspection	115-point furnace inspection

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A-SERIES TEMPERING FURNACE

Produce quality glass in an efficient and stable environment while reducing energy consumption.

Glass Width Range	49 – 130 in
Minimum Glass Size	4 x 6 in
Glass Thickness	3 – 19 mm





A3-SERIES CONVECTION FURNACE

Provides efficient and consistent tempering for a variety of glass types. Ideal for small- to mid-sized glass fabrication operations.

Glass Width Range	49 - 130 in
Minimum Glass Size	4 x 6 in
Glass Thickness	3 – 19 mm



AD1-GD DUAL CHAMBER TEMPERING FURNACE

Increase production with two heating chambers, top and bottom radiation and gapless convection, plus two quenching and cooling stations.

Glass Width Range	63 – 138 in
Minimum Glass Size	4 x 6 in
Glass Thickness	3 – 19 mm



AG1 TEMPERING FURNACE

Innovative matrix radiation and forced convection heating technologies team up in this tempering furnace model.

Glass Width Range	63 – 138 in
Minimum Glass Size	300 x 500 in
Glass Thickness	4 – 19 mm



AU TEMPERING FURNACE

Reliable, easy-to-use convection furnace for cost-effective tempering.

Glass Width Range	48 – 120 in
Glass Thickness	3 – 19 mm
Minimum Glass Size	7.87 x 13.77 in



B-SERIES TEMPERING FURNACE

Economic convection and maximum uptime are delivered thanks to external compressed air and reliable construction.

Glass Width Range	63 – 138 in
Glass Thickness	3 – 25 mm
Minimum Glass Size	3.14 x 3.14 in



AX1 CONTINUOUS FURNACE

Master thin glass output with high production capacity and glass thickness flexibility.

Minimum Glass Size	7.87 x 11.81 in
Glass Thickness	3 – 10 mm
Production Capacity	3821 – 11,302 ft²/hour



AX2 CONTINUOUS FURNACE

Produce thin glass at high production volumes for solar panels, architectural glass, furniture, household appliances and more.

Glass Thickness	3.2 – 6 mm
Production Capacity	2777 – 6351 ft²/hour



A7 GLASS BENDING FURNACE

Designed to create J- and R-shaped tempered glass, this furnace is ideal for bus windows, shower stalls, architectural applications, furniture, appliances and more.

Glass Width Range	24 – 78 in
Minimum Glass Size	23.62 x 15.74 in
Glass Thickness	5 – 8 mm
Production Capacity	15 batches/hour
Minimum Arc Radius	350 mm





CHEMICAL GLASS  
TEMPERING FURNACE

Produce high-intensity, single-chip glass, bent glass or ultra-thin glass without distortion or surface defects.

Glass Thickness	0.5 - 19 mm
Minimum Glass Size	1,800 x 2,400 mm
Maximum Glass Size	2,500 x 3,200 mm



HEAT SOAK FURNACE

Produce flawless, heat-soaked tempered glass while avoiding safety hazards such as inner-stress or self-explosion.

Glass Thickness	3 - 25 mm
Minimum Glass Size	2,500 mm
Maximum Glass Size	5,200 mm



HORIZONTAL GLASS  
WASHING MACHINE

Get flawless glass with our efficient and customizable horizontal glass washers.

Glass Width Range	48 – 112 in
Glass Thickness	3 – 19 mm
Speed	0 – 6 m/min
Voltage/Power Supply	480V, 3-phase



GLASS WASHING  
AND DRYING MACHINE

This space-saving machine washes and dries low-E glass, ordinary coated glass and solar glass with no scratching.

Glass Width Range	48 – 120 in
Glass Thickness	3 – 19 mm
Speed	0 – 10 m/min
Power Supply	480V, 3-phase



ZAFFERANI VERTICAL  
GLASS WASHING MACHINE

Perfect for large glass sheets, this open-top, vertical washing machine is a staple for most facilities.

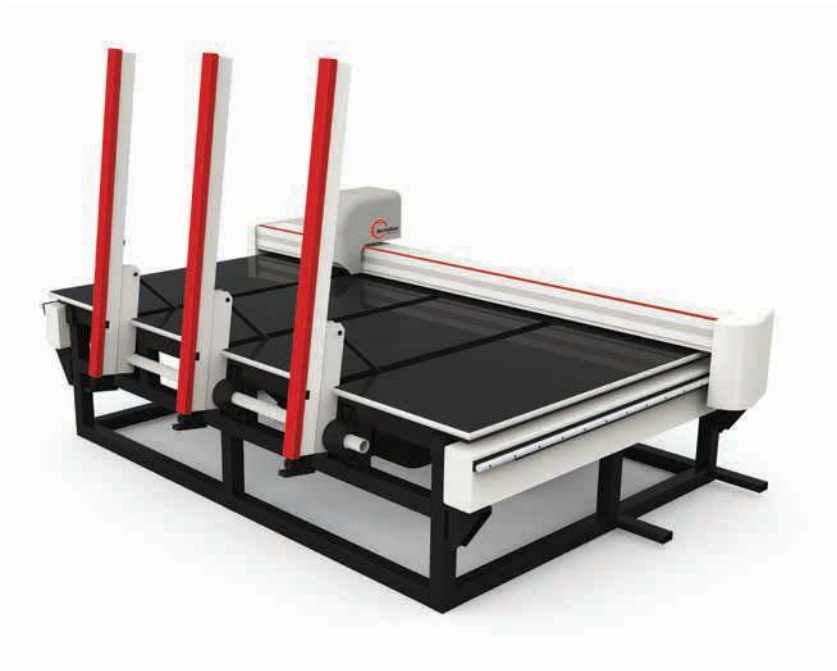
Minimum Glass Size	250 x 50 mm
Glass Thickness	3 – 19 mm
Speed	3 m/min
Power Supply	7 kW



GLAS.C GLASS CUTTING  
TABLE - LOADING BAR (BQT)

Offering a loading system, cutting and breaking-out zone, this cutting table is ideal for operations with limited space.

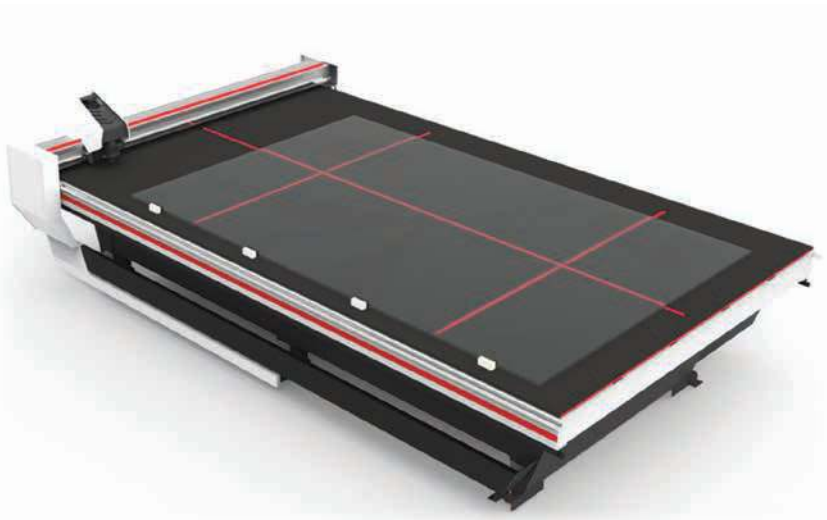
Minimum Glass Size	39.4 x 59 in
Glass Thickness	3 –19 mm
Dimension/Working Size	98.4 x 78.7 – 165.4 x 110.2 in
Cutting Speed	590.6 ft/min max
Acceleration	14.8 ft/sec
Straight Accuracy	± 0.15/2,000
Shape Accuracy	± 0.1
Maximum Cutting Size	110.2 x 165.4 in
Minimum Cutting Size	39.4 x 59 in



GLAS.C GLASS CUTTING  
TABLE (BQ)

Offering a tilting loading system, cutting and breakout area, this cutting table requires limited space and features easy transportation and installation.

Minimum Glass Size	39.4 in. x 59 in
Glass Thickness	3 –19 mm
Dimension/Working Size	98.4 x 78.7 – 240.2 x 131.9 in
Cutting Speed	590.6 ft/min max
Acceleration	14.8 ft/sec
Straight Accuracy	± 0.15/2,000
Shape Accuracy	± 0.1 – 0.2
Maximum Cutting Size	110.2 x 165.4 in
Minimum Cutting Size	39.4 x 59 in



GLAS.C GLASS CUTTING  
TABLE (C4, C5, C6)

Equipped with all the standard glass cutting system features, plus a double servo motor and independent side beam, glass cutting is easy with this table.

Minimum Glass Size	39.4 x 59 in
Glass Thickness	3 –19 mm
Dimension/Working Size	165.4 x 110.2 in – 240.2 x 131.9 in
Cutting Speed	590.6 ft/min maximum
Acceleration	14.8 ft/sec
Straight Accuracy	± 0.15/2,000
Shape Accuracy	± 0.1 – 0.2
Maximum Cutting Size	110.2 x 165.4 in
Minimum Cutting Size	39.4 x 59 in



GLAS.C GLASS CUTTING  
TABLE WITH LOADING SYSTEM  
(C4-A, C5-A, C6-A)

This cutting table comes in two different drive systems: a high-speed, low-overload capacity mechanical system and a heavy-loading, high-overload capacity hydraulic drive system designed for oversized glass.

Minimum Glass Size	39.4 x 59 in
Glass Thickness	3 –19 mm
Dimension/Working Size	165.4 x 7110.2 in – 252 x 131.9 in
Cutting Speed	131.2 – 180.4 ft/min max
Glass Weight	990 – 2,205 lbs
Maximum Cutting Size	110.2 x 165.4 in
Minimum Cutting Size	39.4 x 59 in





INDUSTRIAL WATERJET CUTTER

For increased precision, efficiency and power, use the waterjet designed specifically for the glass industry.

Speed	0 – 32.81 ft/min
Cutting Accuracy	± 0.0039 in
Control Accuracy	± 0.0001 in
Maximum Pressure	60,000 psi
Maximum Flow Rate of UHP Water	1.004 gal/min
Control System	AC Servo



4-EDGE HORIZONTAL GLASS GRINDER

Fast and compact glass grinding removes edges and coatings with ease.

Glass Width Range	60 – 98 in
Glass Thickness	0 – 82 ft/min
Control System	Servo Motor



DENVER AQUA WATERJET CNC CUTTING MACHINE

A versatile, high-performance, waterjet cutting machine. Beyond glass, it also cuts stone, metal, plastic, quartz, ceramic and other ultra-compact materials.

Machine & Pump Footprint	295.2 x 200.7 in (3 m version) 334.6 x 200.7 in (4 m version)
Tank Dimensions	157.4 x 92.1 in (3 m version) 196.8 x 92.1 in (4 m version)
Work Area	118 x 78.7 in (axes motion powered by brushless motor with adjustable speed up to 48 m/min)
Cutting Head 3 Axes Includes	Double mini hopper for abrasive cut, Diamond Orifice & High Pressure Nozzle
Cutting Head Precision	± 0.05 mm

Hypertherm Pump Technical Features:

- Pump Power: 37 kW/50 Hp
- Jet Pressure: 4.137 bar (60,000 psi)
- Pump Flow Rate: 1.00385 gal/min

*\*Options may affect basic machine's configuration and characteristics.*





SFTG-1200 HORIZONTAL  
GLASS DRILLING MACHINE

Maximize productivity and improve lead times with this automatic glass drilling machine.

Glass Thickness	3 - 20 mm
Speed	0 - 3600 RPM
Roller Table	98 x 60 in
Drill Hole Size Range	0.15 - 6 in



ZAFFERANI AZV 100XL  
GLASS DRILLING MACHINE

This double-head, manual vertical drilling machine with open top allows for large-dimensional glass lites.

Glass Thickness	3 - 20 mm
Hole Diameter	3 - 100 mm
Number of Heads	2 (front and rear)
Spindle Rotation Speed	up to 4,000 RPM
Power	2 kW
Weight	1,000 kg
Drill Bit Dimensions	H = 75 mm x 1/2 gas



ZAFFERANI AZV 1000 VERTICAL  
DRILLING/MILLING MACHINE

Specifically designed for milling and counter-sinking to create notches for door hinges and fittings, this machine also offers numerical control.

Glass Thickness	4 - 25 mm
Working Area	200 x 1,000(h) mm
Minimum Glass Size	500 x 300 mm
Maximum Glass Size	3,400 x 3,210 mm
Minimum Hole	13 mm
Weight	1,500 kg
Power	8 kW
Maximum Spindle Speed	9,000 RPM
Milling Tool Length	75 - 100 mm



ZAFFERANI AZV 160CN VERTICAL  
GLASS DRILLING MACHINE

Designed for drilling glass up to 1.60 meters high, this vertical glass drilling machine outperforms others.

Minimum Glass Size	250 X 100 mm (9.84 - 3.94 in)
Glass Thickness	3 - 40 mm
Weight	1,650 kg
Power	9 kW
Drill Hole Size Range	4 - 100 mm (0.157 - 3.94 in)



AUTOMATIC INSULATING GLASS PRODUCTION LINE

Insulated glass automation in four steps using either a single or dual press settings.

Maximum Glass Size	126 x 238 in
Minimum Glass Size	8 x 16 in
Glass Thickness	3 - 12 mm (standard) / 3 - 30 mm (optional)
I.G. Unit Thickness	.5 - 2 in (standard) / over 2 in (optional)
Spacer Width	.25 - 1 in (standard) / over 1 in (optional)

Included Equipment

- Inspector & Spacer Alignment Station
  - Transport Cover
  - Washing & Drying Part
  - Spacer Frame Positioning Part
  - Gas Filling & Press
- Super Spacer® (Foam) Applicator
  - Automatic Sealing Robot
  - Edge Deleting Machine
  - Rotating Conveyor
  - Automatic Cork Pad Applicator



VERTICAL WASHER

This 3-in-1 washer loads, washes and dries insulated glass. It automatically detects glass thickness and adjusts accordingly. Three pairs of brushes and air-knives work with the high-pressure blower to remove all contaminants for impeccable glass.

Maximum Glass Size	126 x 238 in
Minimum Glass Size	8 x 16 in
Thickness of glass plates	3-12 mm 3-30 mm
Thickness of IG Unit	12-60 mm (over 60 mm is optional)
Type of IG units	Rectangular units Double units Triple units
Electronic tension & frequency	3P 415V, 50Hz, 55kw
General conveying speed	141 ft/min
Speed of washing machine	6.5-39 ft min
Air supply pressure	100 PSI



AUTOMATIC SPACER BENDING ROBOT

This robot supports various types of spacers and can bend shapes into 16 patterns.

Maximum Frame Size	98 x 98 in (1 piece) 122 x 157 in (2 pieces) Spacer
Width	.2 - 1 in
Magazine	3 slots (standard) More upon request
Type of Spacer	Aluminum Spacer Warm Edge Spacer



HORIZONTAL GLASS GRINDER

Four-edge, glass grinder featuring four grinding heads and simultaneous upper/lower glass side grinding.

Maximum Glass Size	120 in
Minimum Glass Size	12 x 20 in
Glass Thickness	3 - 20 mm
Working Level	35 (.2±) in
Grinding Speed	20 - 42 m/min
Production Speed (39 x 39 in.)	300 sets / hr

Features

- Independent processing system with a grinding head on all sides
- Faster speeds thanks to four-grinding head design
- Automatic glass thickness and size detection
- Precision glass transfer via vacuum conveyor belt





DESICCANT FILLING STATION

The filling station offers a fully automated drilling, filling and butyl sealing process. Plus, the operation panel enables you to adjust height and select from two head types.

Maximum Spacer Bar Size	141 in (1 piece)
Spacer Bar Thickness	.2 - 1 in
Desiccant Tank / Drum	200 Liter Drum
Type of Spacer	Warm Edge Spacer



BUTYL EXTRUDER

Precision temperature control reduces pre-heat and discharge time while also saving on power consumption. Glass is kept clean with circular, coated rollers.

Maximum Spacer Width	Automatic Adjustments .2 - 1 in Manual Adjustments up to 1.2 in
Height Adjustment	26 in
Working Speed	82 - 115 ft/min



2-PART PUMP

Featuring separate resin and agent pumps, high-pressure discharge, a hydraulic pump system and automatic return valve.

Mixing ratio	8:1 - 12:1
Maximum Pressure	250Kg / CM2 = 3555 PSI
Drum Capacity	Part A drum 55 GAL Part B drum 5 GAL



SEALING TABLE

With four center suction cups, the sealing table stabilizes glass and rotates it while insulated glass edges are sealed.

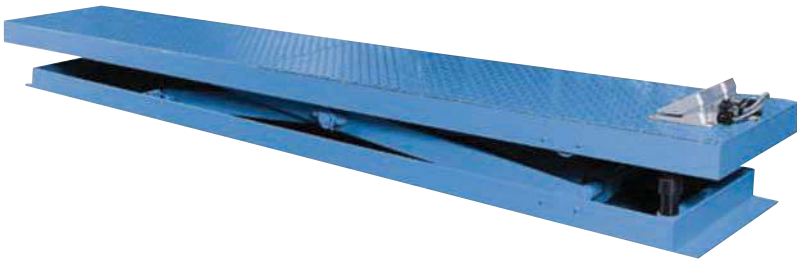
Maximum Glass Size	70 x 70 in
Minimum Glass Size	8 x 8 in
Arm Adjustment	23 - 59 in
Working Level	35 in



HYDRAULIC LIFT

Elevate or lower glass and equipment weighing up to 440 lbs. with this sturdy hydraulic lift. Very compact, it folds for simple transportation and installation.

Maximum Adjustable Height	42 in
Length x Width x Height	118 x 19 x 12 in
Allowable Weight	440 lbs



SPACER BAR FEEDING MACHINE

Load standard and oversized glass panels faster using the spacer bar feeding machine.

Length	98 in
Width	130 in
Height	138 in



AUTOMATIC HORIZONTAL HOT-MELT SEALING MACHINE

Ensure gap-free sealing on all IG unit sizes.

Maximum Glass Size	39 x 63 in
Minimum Glass Size	6 x 10 in
Temperature	190° C
Hopper	200 Liters





MAXI LIFTER KSNB-03

This maxi lifter is operated by pneumatic power and enables automatic 6° tilting and 90° rotation making it perfect for indoor processing lines.

Pad Quantity	4 ea
Pad Size	250mm (10 in)
Lifting Capacity	700 lbs



MAXI LIFTER KSNM-05

This maxi lifter has a lift capacity of 875 lbs. and is the ideal glass lifter for use with light rail system.

Lifting Capacity	1,000 lbs
Minimum Glass Size	33 x 31 in
Pad Size	KSPD-241 (Construction)
Pad Quantity	6 ea
Vacuum Filter	1 ea
Release Time	2 sec
Electric Power Consumption	1Kw
Control Board	KSAF-V1.1
Lifter Size	63 x 39 x 12 in
Net Weight	115 lbs
Power Supply	AP 220V 1P 50/60Hz



MAXI LIFTER KSNB-01

This maxi lifter was designed for indoor processing lines and features a two-button release and dual-vacuum system.

Pad Size	250mm (10 in)
Lifting Capacity	353 lbs
Pad Quantity	2 ea



JIB CRANE WITH EJECTOR LIFTER HHHJC-001

Make your production line more agile with adaptable glass lifting thanks to the jib crane and ejector lifter.

Lifting Capacity	551 lbs
Power Supply	Pneumatic power



COMING SOON  
More Kodiak edging and polishing  
equipment offerings coming in 2021!



KODIAK™

EDGING AND POLISHING EQUIPMENT  
FROM HHH EQUIPMENT RESOURCES

HHH Equipment Resources is proud to offer an innovative, exclusive line of glass edging and polishing equipment fully serviced in the United States.

With over 125 years of combined service to the glass industry, HHH Equipment Resources and Salem Fabrication Technologies Group, Inc. have come together to launch a line of edging equipment that meets U.S. fabricators' needs and measures up to leading competitor brands. The Kodiak™ line of edging equipment from HHH produces high-quality glass with speed, precision and flexibility.

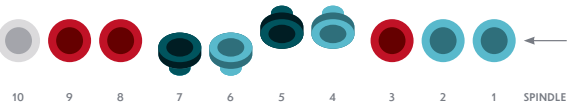
With competitive production speeds, exceptional edge quality and proven track design, Kodiak is suitable for all facility sizes and types for glass edging, polishing, beveling, mitering and more. All Kodiak edging equipment from HHH Equipment Resources was designed for the North American market with:

- Long-lasting track elements
- Intuitive displays
- Automatic lubrication
- UL-certified components
- Heavy-duty spindles and frame construction
- Industry-leading warranty

KODIAK™ 10 FLAT  
POLISHING MACHINE

The Kodiak™ 10 Flat Polishing Machine polishes glass with speed and precision. Featuring 10 spindles, this glass polishing machine works well on oversized glass.

Minimum Glass Size	60 x 60 mm
Glass Thickness	3 - 30 mm
Speed	0 - 5m/min
Weight	5,350 kg
Power	27 kW



KODIAK™ 10-45  
GLASS POLISHING AND  
MITERING MACHINE

The Kodiak™ 10-45 Glass Polishing and Mitering Machine produces polished and mitered edges with competitive production speeds. Features 10 spindles with an adjustable miter angle up to 45 degrees.

Minimum Glass Size	80 x 80 mm. edging (150 x 150 mm Mtr)
Glass Thickness	3 - 30 mm
Variable Angle	0 - 45°
Speed	0 - 5m/min
Weight	5,800 kg
Power	28 kW

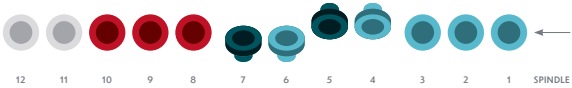




KODIAK™ 12HS FLAT POLISHING MACHINE

The Kodiak™ 12 HS is a high-speed flat polishing machine. With 12 heavy-duty spindles, this machine finishes glass edges quickly without sacrificing quality for ultimate production capacity.

Minimum Glass Size	60 x 60 mm
Glass Thickness	3 – 30 mm (60 opt)
Speed	0.5 – 5m/min (0.5 – 10m/min opt.)
Weight	5,500 kg
Power	32 kW



KODIAK™ 14-45 GLASS POLISHING AND MITERING MACHINE

The Kodiak™ 14-45 Glass Polishing and Mitering Machine polishes and miters glass edges with 14 spindles and a variable mitering angle up to 40°.

Minimum Glass Size	80 x 80 mm. edging (150 x 150 mm. mitering)
Glass Thickness	3 – 30 mm
Variable Angle	0 - 45°
Speed	0.5 – 5m/min
Weight	6,400 kg
Power	37 kW



KODIAK™ 371 GLASS BEVELING MACHINE

The Kodiak™ 371 Glass Beveling Machine is an 11-spindle beveling machine featuring 3 felt wheels, 7 grinding/smoothing wheels and 1 peripheral edging wheel for any glass application.

Minimum Glass Size	60 x 80 mm
Glass Thickness	3 – 20 mm
Variable Angle	3 - 45°
Speed	0.5 – 5m/min
Weight	5,850 kg
Power	28.5 kW



HISENG HSD GLASS STRAIGHT  
LINE DOUBLE EDGER LINE

Two integrated computers and machines simultaneously manage the entire polishing line and glass movement.

Speed	20 - 315 in/min
Width	78 in/min
Adjustment Speed	78 in/min
Transfer Table Speed	20 - 1180 in/min



HISENG HSD GLASS  
STRAIGHT LINE DOUBLE  
EDGING MACHINE

Increase edging efficiency with automatic glass size detection and simultaneous dual-edge polishing.

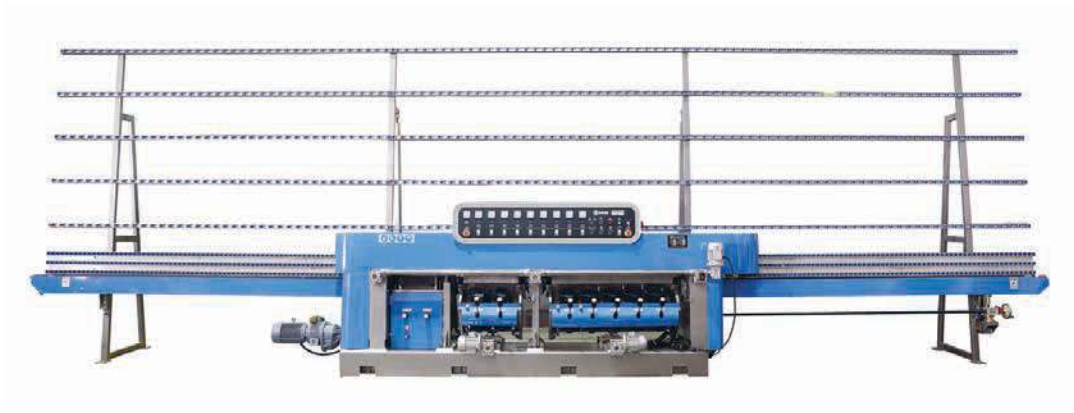
Glass Thickness	3 - 25 mm
Maximum Flat Edge Polishing	5 mm
Polishing Width	1 – 3 mm



HISENG HSE GLASS  
MITERING MACHINE

Able to quickly meet 45 degree mitering requirements, this edging machine can be used for thick or oversized glass edging.

Minimum Glass Size	4 x 4 in
Glass Thickness	3/16 - 3/4 in
Speed	20 - 195 in/min



HISENG HSE GLASS STRAIGHT  
LINE EDGING MACHINE

Ideal for thick or oversized glass, straight-line edging machines are perfect for glass edging in a variety of applications.

Minimum Glass Size	6 x 6 in
Glass Thickness	1/8 - 3/4 in
Speed	20 - 195 in/min





HISENG SYM GLASS STRAIGHT  
LINE DOUBLE PERIPHERAL  
EDGING MACHINE

Equipped for high-volume production and built for solar, furniture, electrical appliance and automotive glass applications.

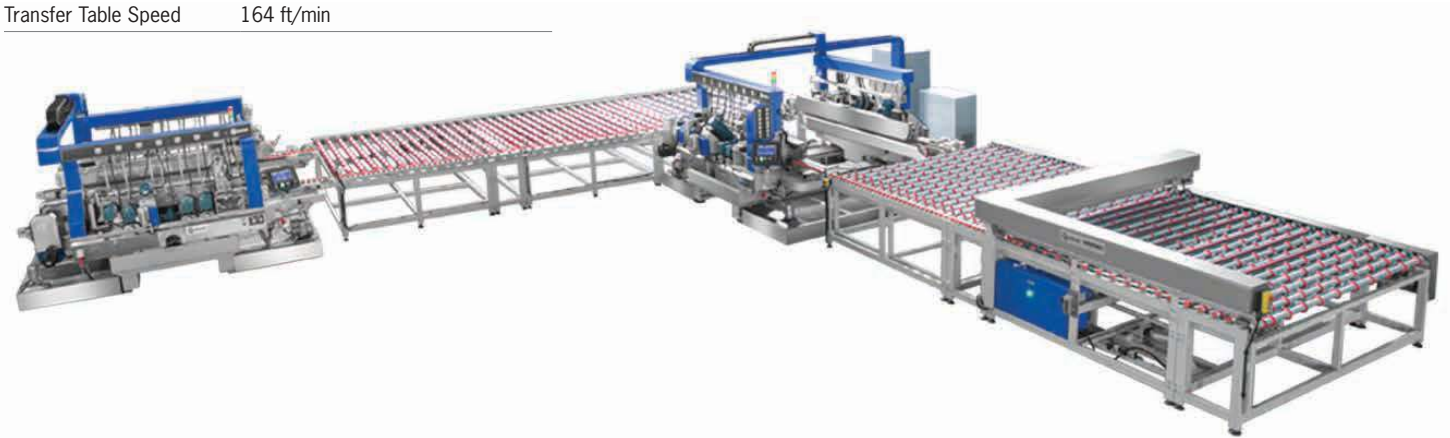
Glass Thickness	3 - 19 mm
Speed	0.5-8 m/min



HISENG SZM AUTOMATIC SUPER  
SPEED DOUBLE EDGER LINE

Fast automated glass edging made easy! The double edging line is ideal for Low-E and insulated glass units.

Glass Thickness	1/8 - 1 in
Maximum Flat Edge Polishing	3/16 in
Glass Size Detection	131 ft/min
Maximum Edging Speed	49 ft/min
Width Adjustment Speed	65 ft/min
Transfer Table Speed	164 ft/min



ZAFFERANI FLAT GLASS  
POLISHING MACHINE

Producing flat edges with seams requires perfect precision. Our Zafferani Flat Glass Polishing Machines easily give you the edges you need. As an 8-spindle glass polisher equipped with 8-cup type wheels, every edge you cut is exact.

Minimum Glass Size	40 - 80 x 80 mm
Glass Thickness	3 - 22 mm
Speed	0.5 – 4 m/min
Weight	1,300 - 2,300 kg
Power	5.8 - 12 kW



ZAFFERANI MASTER GLASS  
EDGING MACHINE

When you need a peripheral edger to produce pencil edges or flat edges with seams, the Zafferani Master Glass Edging Machine is the perfect solution.

Minimum Glass Size	50 x 50 mm - 80 x 80 mm
Glass Thickness	3 - 22 mm
Speed	0.5 – 4 m/min
Weight	1,900 - 2,300 kg
Power	8 - 12 kW



ZAFFERANI SENIOR GLASS  
EDGING MACHINE

The Zafferani Senior Glass Edging Machine is the perfect solution for producing pencil edges or flat edges with seams.

Minimum Glass Size	80 x 80 mm
Glass Thickness	3 - 22 mm
Speed	0.5 – 4 m/min
Weight	1,100 kg
Power	4.5 kW



DENVER ADVANCE ELITE  
VERTICAL CNC WORK CENTER

The Denver Advance Elite Vertical CNC Work Center is your all-in-one modern alternative to horizontal CNC work centers. Whether you want to edge, notch, countersink or polish, avoid human error by eliminating operator intervention. This machine transforms glass from the cutting table into the final product.

Glass Thickness	4 - 21 mm
Spindle Power	10.6 HP
Weight	200 kg
Working Envelope	3,500 x 2,000 mm
Power	15 kW
Water Consumption	4 - 30 gal/min
Maximum Glass Size	3,500 x 2,500 mm

*\*Robotic loading available*



DENVER ADVANCE LAB VERTICAL  
CNC WORK CENTER

The Denver Advance Lab Vertical CNC Work Center is your all-in-one modern alternative to horizontal CNC work centers. Whether you want to edge, notch, countersink or polish, avoid human error by eliminating operator intervention. With zero set up, it runs 100% of the time so you can maximize productivity.

Glass Thickness	4 - 21 mm
Spindle Power	10.6 HP
Weight	150 kg
Working Envelope	3,500 x 1,500 mm
Power	15 kW
Water Consumption	4 - 30 gal/min
Maximum Glass Size	3,500 x 2,500 mm

*\*Options may affect basic machine's configuration and characteristics.*



DENVER DIGIT HORIZONTAL  
CNC WORK CENTER

Multi-functional CNC work center with 5 digital interpolated axes designed for hi-tech performance.

Weight	4,500 - 5,000 kg
Working Envelope	3,140 - 4,200 x 1,650 - 2,450 x 430 mm
Power	17 kW



DENVER QUOTA HORIZONTAL  
CNC WORK CENTER

Multi-functional CNC work center with 3 or 4 digital interpolated axes.

Weight	4,200 - 5,000 kg
Working Envelope	3,350 - 4,200 x 1,650 - 2,450 x 520 mm
Power	11 kW



DENVER KREA CNC  
WORK CENTER

Compact multi-functional CNC work center with 3 digital interpolated axes.

Weight	3,000 kg
Working Envelope	2,200 x 1,200 x 300 mm
Power	6.6 kW





FRATELLI PEZZA GHIBLI  
GLASS SANDBLASTING UNIT

Even in the most demanding operations, you can count on long operational life of the Fratelli Pezza Ghibli Glass Sandblasting Unit. With automatic self-cleaning dust collection, this glass sandblasting equipment prevents dust contamination in work areas. Maximize the life of the blasting medium with the unit's automatic abrasive recovery and recirculation system.

Glass Thickness	1 – 50 mm
Weight	335 - 600 kg
Machine Dimensions	1,720 - 3,000 x 1,150 - 1,450 x 2,200 - 2,350 mm
Power	1.2 kW
Maximum Glass Size	1,200 - 2,600 mm
Minimum Glass Size	200 x 200 mm
Air Supply	600 liters/min
Number of Guns	1 manual



FRATELLI PEZZA ZEPHIR  
GLASS SANDBLASTING UNIT

The Fratelli Pezza Zephir Glass Sandblasting Unit is the industry standard for operational life and performance. Features automatic self-cleaning dust collection to prevent dust contamination. The unit's automatic abrasive recovery and recirculation system maximize the life of the blasting medium.

Minimum Glass Size	200 x 200 mm
Glass Thickness	1 – 50 mm
Speed	1m2 / 4-5 min
Weight	700 - 850 kg
Machine Dimensions	4,050 x 1,450 - 1,680 x 2,350 -2,610 mm
Power	2 kW
Maximum Glass Size	1,200 - 1,800 mm
Air Supply	600 - 800 liters/min
Number of Guns	1 manual, 1 automatic



FRATELLI PEZZA MISTRAL  
GLASS SANDBLASTING UNIT

The Pezza Mistral Glass Sandblasting Unit is a shading-etching-engraving glass blasting machine. Guiding the operator step-by-step through the programming sequence, it can automatically produce up to 30 different elements on the same plate of glass.

Minimum Glass Size	200 x 200 mm
Glass Thickness	1 – 50 mm
Speed	1m2 / 2-3 min
Weight	700 - 1,400 kg
Power	2 - 3 kW
Maximum Glass Size	1,200 - 2,600 mm
Air Supply	800 - 2,400 liters/min
Number of Guns	1 manual, 2 - 3 automatic





CHEMWEST PARTICLE  
REMOVAL SYSTEM

CHEMWEST Particle Removal Systems are manufactured in four sizes ranging from 50 gpm to 400 gpm and are designed to remove glass fines from cutting fluids. Removing up to 99.9% of suspended solids from cutting fluid used for cutting and grinding glass panels, this system is considered to be a green alternative in the manufacturing process. In addition to an increased feed rate of coolant, you will find an improved edge quality, reduced downtime, and an overall lower cost of ownership.



ZAFFERANI DRUM CENTRIFUGE

Centrifugal sludge-water separator with physical removal of glass fines from process water waste.

Machine Size	19.7 x 38.2 x 35.4 in
Weight	150 kg
Power	2 kW
Maximum Flow Rate	100 L/min
Rotor Volume	16 L
Sludge Maximum Capacity	8 kg
Removed Glass Sludge	6 kg/hr
Particle Maximum	1,250 g
Acceleration	
Minimum Particle Size	5 micron



AUTOMATIC LAMINATED  
GLASS PRODUCTION LINE  
FOR ARCHITECTURE GLASS

From washing and drying the glass to moving it to the autoclave to be laminated, this automatic laminated glass machinery manages your entire laminated glass production process. Offers production of architecture laminated glass automatically or manually.



LAMINATED GLASS  
PRODUCTION LINE

Easy to operate and maintain, this machinery series offers a cost-effective investment in laminated glass automation. Product line-up includes glass loading machine, glass unloading machine, flat glass washing and drying machine, pre-heating and pre-pressing machine and bent glass pre-heating and pre-pressing machine (optional).





GLASS LAMINATING MACHINE

Diversify your glass fabrication offerings and align your operation with current glass industry trends with a glass laminating machine.

Minimum Glass Size	71 x 94 in
Glass Thickness	3 - 19 mm
Speed	0.5-5 m/min
Production Capacity	1.5-2 h/circle



GLASS AUTOCLAVE

The glass autoclave from HHH Equipment Resources laminates flat and bent glass. It is ideal for architecture, anti-bullet and anti-bombing glass.

Minimum Glass Size	1,700 x 5,000 mm
Maximum Glass Size	3,600 x 18,500 mm
Electric Power Consumption:	85 - 1100 kW
Air Pressure	1.3 MPa
Temperature	275°F
Working Medium	Compressed Air



TORNATI VB GLASS LAMINATING OVEN

The Tornati VB Glass Laminating Oven is suitable for glass in an annealed or tempered state, for sensitive laminating products, and for those with decorative or functional inserts. These non-autoclave laminating ovens can be built for custom-sized glass, including any thickness variation. The VB is an efficient-style glass laminating system ideal for high volume, smaller-sized glass.

Power	43 - 67 kW
Maximum Glass Size	1,800 - 2,300 x 3,000 mm
Number of Levels	4



TORNATI VN GLASS LAMINATING OVEN

The Tornati VN Glass Laminating Oven laminates: clear, coated, mirrored or colored glass in an annealed or tempered state, products sensitive to pressure and temperature, and products with decorative and functional inserts. The VN is a non-autoclave glass laminating oven that can be built to your custom glass specifications, and is the perfect solution for producing high-volume laminated glass.

Power	44 - 84.1 kW
Maximum Glass Size	1,800 - 2,300 x 3,000 - 4,500 mm
Number of Levels	4



TORNATI VM2 GLASS LAMINATING OVEN

The Tornati VM2 Glass Laminating Oven laminates multiple different product types, from tempered to pressure-sensitive to decorative glass. From small to high production yield applications, you get continuous production of safety, hurricane, ballistic, fire rated and architectural glass. The VM2 is a smaller, more portable glass laminating machine.

Power	31 - 50 kW
Maximum Glass Size	1,500 - 2,000 x 3,000 mm
Number of Levels	2



HOAF CLIMATEBOX®  
STORAGE UNIT

Maintain proper humidity to ensure optimum lamination with the Climatebox. The Climatebox Storage Unit stores and prepares PVB glass rolls before entering the HOAF Heatbox® Heat Soak Oven.

Machine Dimensions	3,300 x 3,000 x 1,100 mm
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HOAF HEATBOX® HEAT  
SOAK OVEN

The HOAF Heatbox Heat Soak Oven cost-effectively laminates safety glass with PVB, EVA and TPU. It's capable of laminating all types of glass, even products like acrylic or polycarbonate. It can also be used for the heat soak test. Like all HOAF machinery, this self-contained modular unit is designed for “plug and play” installation.



HOAF CLIMATEROOM® ROLL  
STORAGE UNIT

The HOAF Climatedroom Roll Storage Unit creates and maintains a clean room environment critical to producing high-quality laminated products. As with all HOAF machinery, “plug and play” installation eliminates downtime in your production.



HOAF TWINBOX® GLASS  
LAMINATING OVEN

The HOAF Twinbox® Glass Laminating Oven combines the oven and storage from HOAF Heatbox® and Climatebox® into one space-saving unit. The Twinbox® is capable of laminating all types of glass, and uses different interlayers like fabrics, woods and metals, giving you the freedom to create glass solutions with added value.

Power	96 kW
Maximum Glass Size	3,300 x 1,600 mm





# GLASS FABRICATION TOOLING AND SUPPLIES



**100% Employee-Owned**  
**saalemftg.com | 1-800-234-1982**

Salem Fabrication Supplies is the tooling and material supplies division of Salem Fabrication Technologies Group, Inc. Salem Fabrication Supplies provides high quality diamond tools and supplies with long life spans to meet the demands of heavy production. Salem’s product offering of tooling and supplies cover every aspect of production and glass application, including:

- Abrasives
- Diamond Tooling
- Material Handling
- Coolants & Additives
- Glazing Supplies
- Polishing Wheels & Compounds



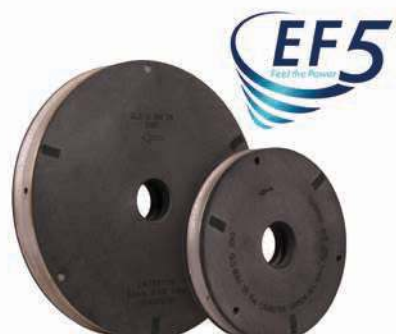
## GO BEYOND THE EDGE

Salem Fabrication Supplies offers several exclusive, high-quality tooling and supplies brands such as Thunder Cut, EF5, Superior Wheels and more, along with a full range of material handling equipment. To learn more about our tooling and supplies, visit [saalemftg.com](http://saalemftg.com).



### Thunder Cut premium diamond core drills

Self-dressing drills that offer 2x the speed and 3x the life



### EF5 elite diamond peripheral wheels

Operate at speeds up to 10 m/min without sacrificing life

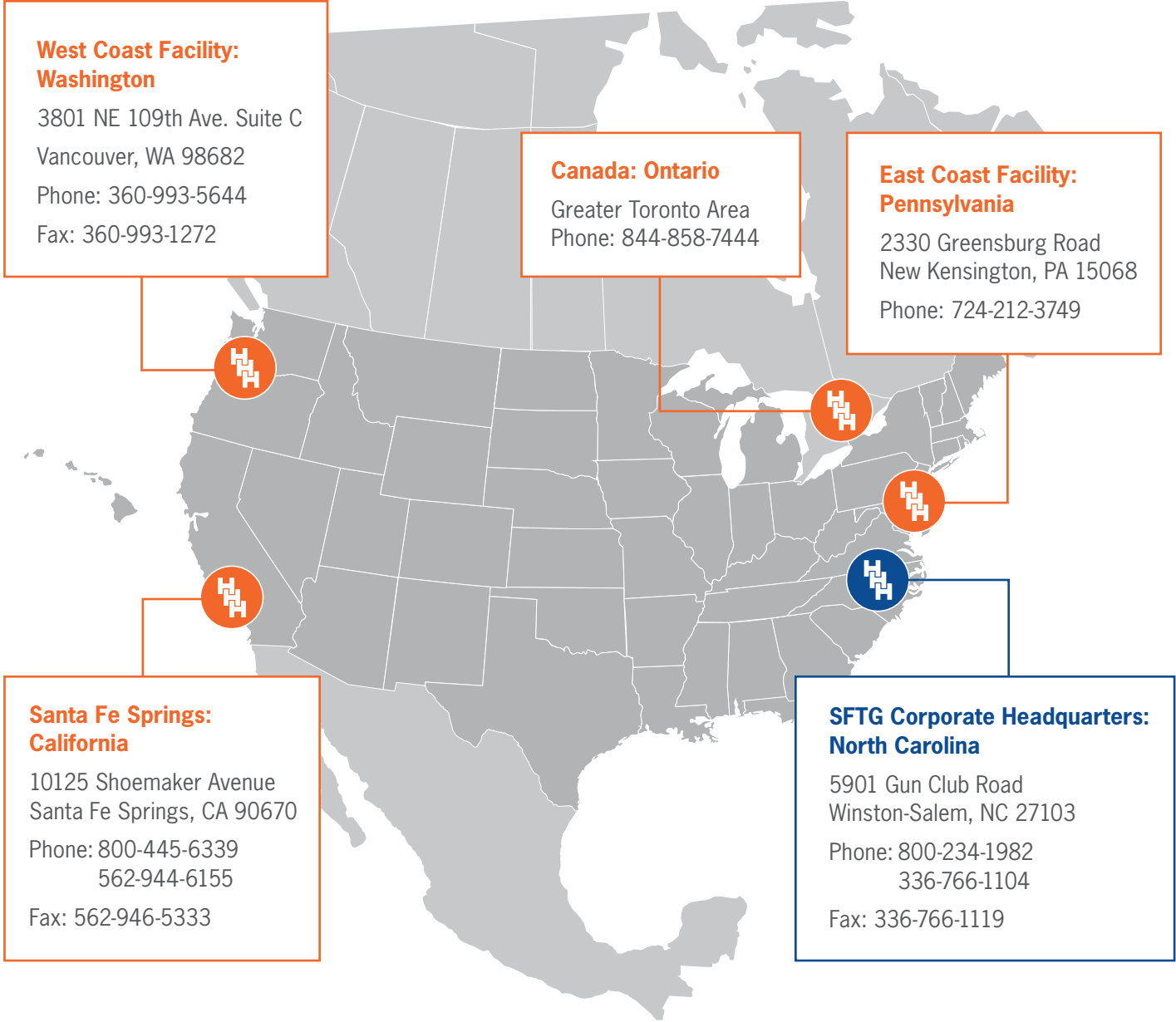


### SUPERIOR wheel line

Unique “S” pattern on the cutting band for edging laminated glass



# OUR SALES AND TECHNICAL TEAMS SPAN ACROSS THE USA, CANADA AND MEXICO.







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We are 100% Employee Owned

**[HHHGlassEquipment.com](http://HHHGlassEquipment.com)**

**THE  
DIFFERENCE  
IS CLEAR.**