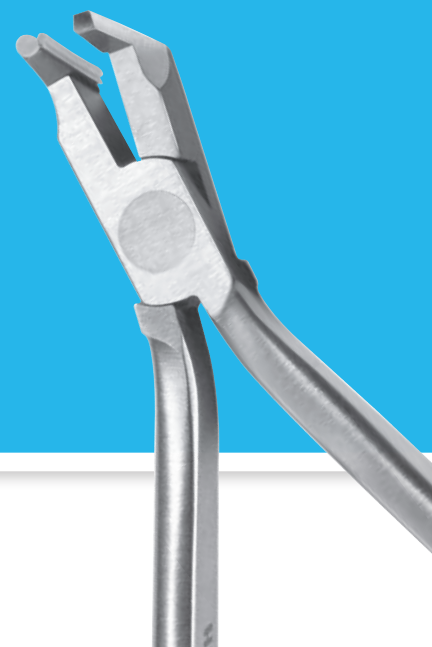
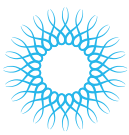


ORTHODONTICS

Clear Collection for Clear Aligners	H2
Cutters	H4
Utility Pliers	H7
Wire Forming Pliers	H10
Hand Instruments	H14
Mathieus, Scissors & Hemostats	H20
Ortho Accessories & Reference	H21





ORTHODONTIC SET-UPS

ARCHWIRE SET-UP

DESCRIPTION	SUGGESTION
Cassette	IM914x*-OR
Mirror/Handle	MIR4/3, MH6
Sickle Scaler	SH5/336
Universal Distal End Cutter With Hold, Long Handle	678-101L
Slim Weingart Pliers	678-202
Slim Direct Bond Bracket Holder	678-504
Bird Beak With Cutter	678-325
Mathieu Pliers	678-330

BANDING SET-UP

DESCRIPTION	SUGGESTION
Cassette	IMORTHSM8
Mirror/Handle	MIR413, MH6
Sickle Scaler	SH6/76
Universal Distal End Cutter With Hold, Long Handle	678-101L
Weingart Pliers	678-201
Band Seating Pliers	678-205
Band Pusher/Dull Scaler	678-906

LINGUAL SET-UP

DESCRIPTION	SUGGESTION
Cassette	IMORTHLG8
Mirror and Handle	MIR4/3, MH6
Lingual Distal End Cutter	678-700
Lingual Pin & Lig Cutter	678-701
Lingual Weingart Pliers	678-702
Lingual Bracket Removing Pliers	678-703
Lingual Hammerhead NiTi Pliers	678-704
Lingual Mathieu Pliers	678-705
Lingual Ligature Director/Picker	678-706

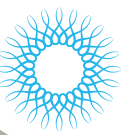
DEBANDING/DEBONDING SET-UP

DESCRIPTION	SUGGESTION
Cassette	IM914x*-OR
Mirror/Handle	MIR4/3, MH6
Sickle Scaler	SH6/76
Universal Distal End Cutter With Hold, Long Handle	678-101L
Weingart Pliers	678-201
Slim Band Removing Pliers	678-503
Angulated Bracket Removing Pliers	678-220L

CLEAR COLLECTION SET-UP

DESCRIPTION	SUGGESTION
Cassette	IM914x*-OR
The Tear Drop	678-800
The Vertical	678-801
The Horizontal	678-802
The Hole Punch	678-803

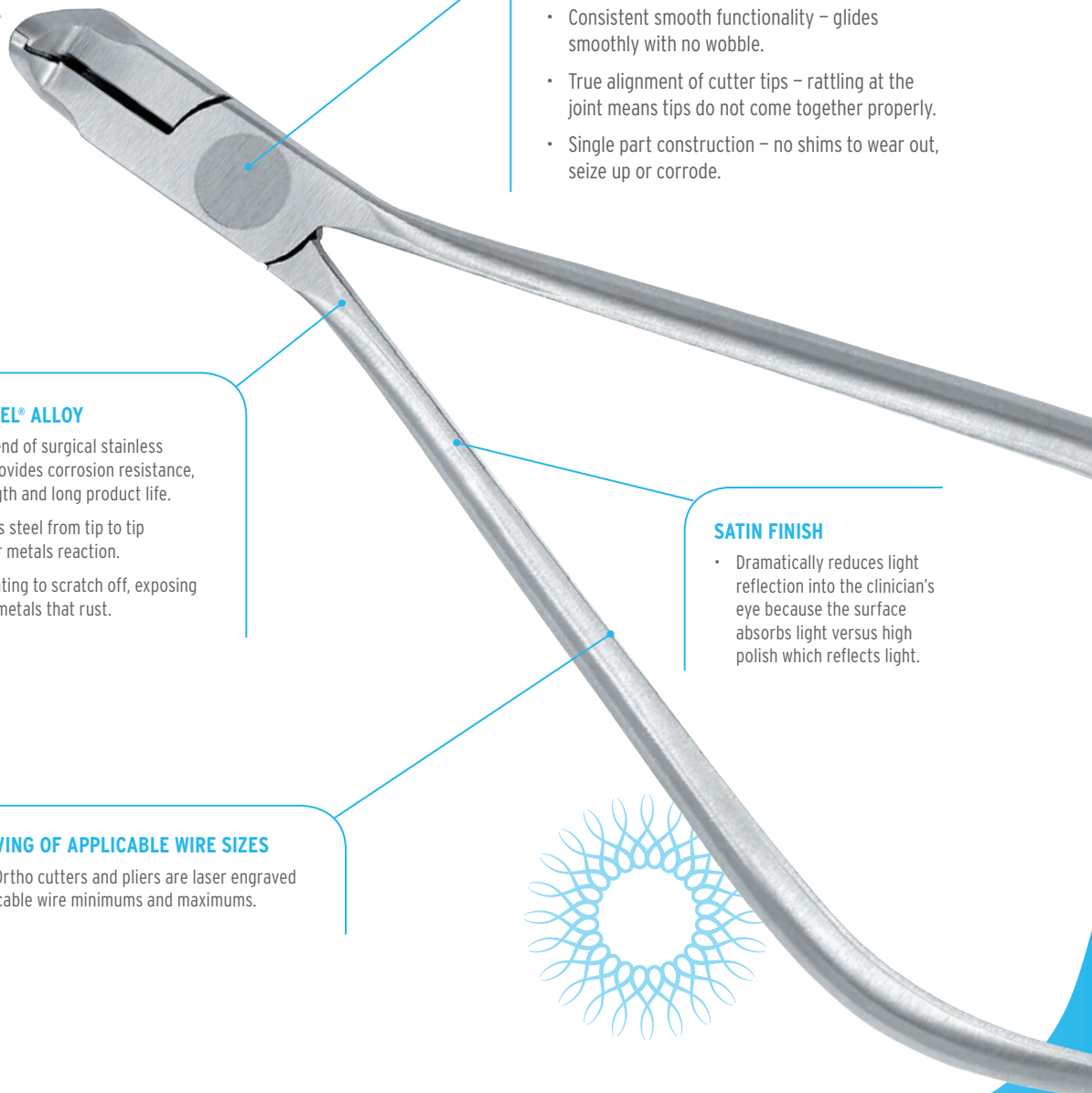
x* See Section A for exact product code number for cassette color desired.



THE PURSUIT OF EXCELLENCE

At Hu-Friedy, the mission is clear: we dedicate ourselves to outstanding craftsmanship through the pursuit of excellence and attention to fine detail. Over a century later, Hugo Friedman's unerring commitment to quality and innovation lives on at Hu-Friedy. As a result, Hu-Friedy instruments are indisputably the most skillfully created precision orthodontic instruments in the world.

Every instrument we create becomes, in essence, a critical extension of each practitioner's skill. To achieve this, we handcraft each instrument individually, assuring instruments of the highest quality, durability and performance available to the profession.



ORBIT JOINT

- Consistent smooth functionality – glides smoothly with no wobble.
- True alignment of cutter tips – rattling at the joint means tips do not come together properly.
- Single part construction – no shims to wear out, seize up or corrode.

IMMUNITY STEEL® ALLOY

- A premium blend of surgical stainless steel which provides corrosion resistance, optimal strength and long product life.
- 100% stainless steel from tip to tip – no dissimilar metals reaction.
- No chrome plating to scratch off, exposing lower quality metals that rust.

SATIN FINISH

- Dramatically reduces light reflection into the clinician's eye because the surface absorbs light versus high polish which reflects light.

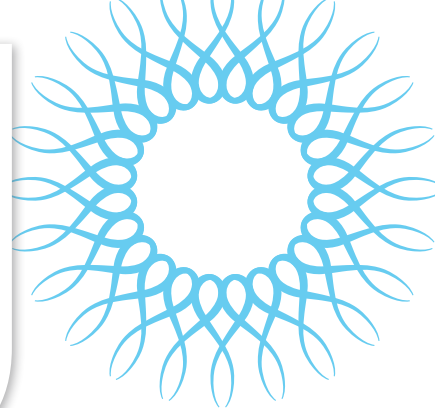
LASER ENGRAVING OF APPLICABLE WIRE SIZES

- All Hu-Friedy Ortho cutters and pliers are laser engraved with the applicable wire minimums and maximums.



CLEAR COLLECTION FOR CLEAR ALIGNERS

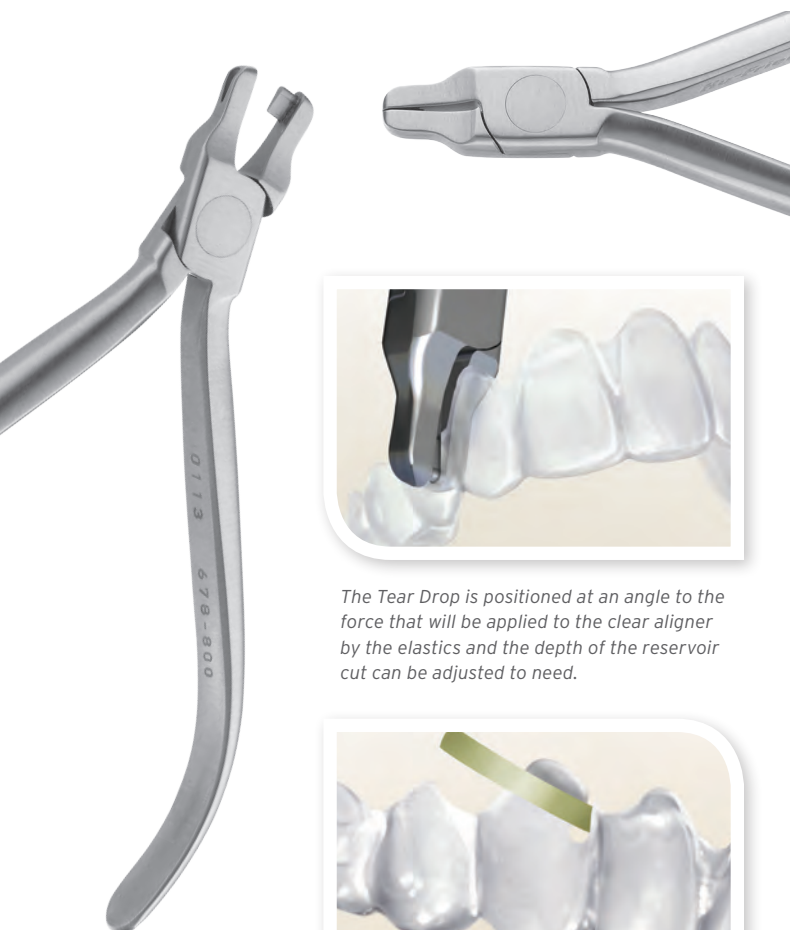
Hu-Friedy's Clear Collection consists of innovative instruments designed to accent, individualize and optimize the biomechanics of the "invisible" aligner experience with no heat required.



The Tear Drop

| 678-800

An instrument created to add a notch at the gingival margin of clear aligners anywhere elastic hooks are required within the arch. The Tear Drop provides a reservoir to hold the elastics in place as the aligner is seated. This permits easier manipulation of elastics by the patient.



The Tear Drop is positioned at an angle to the force that will be applied to the clear aligner by the elastics and the depth of the reservoir cut can be adjusted to need.



The Tear Drop elastic hook can be used to hook-up elastics of all types from Class II, Class III, Delta, Class I intraarch, for connection to TADS, and to produce extrusive forces for specific teeth.

The Vertical

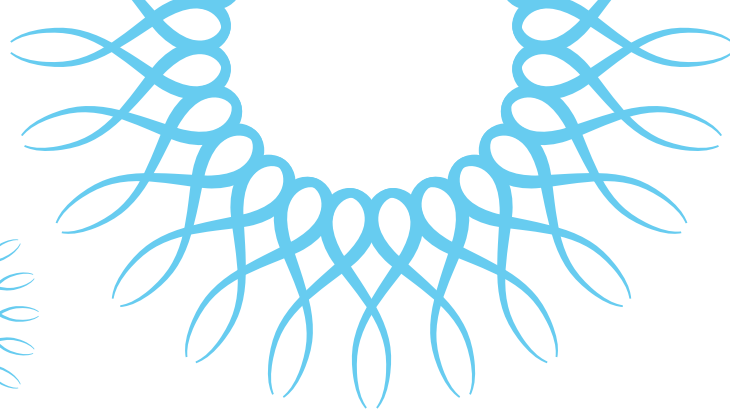
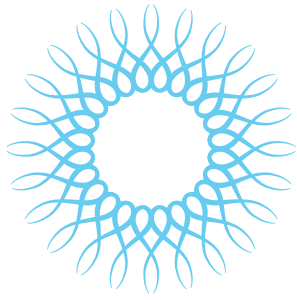
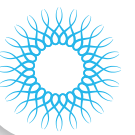
| 678-801

The Vertical emphasizes over-correction of rotations by producing an indentation at the mesial or distal line angles on the facial and/or lingual of a specific tooth. A rotational couple can also be created using vertical indents on facial and lingual surfaces on opposing sides of a tooth. The Vertical can also enhance resolution of in-and-out discrepancies.



Impress an indentation with The Vertical along the mesial or distal line angle of a tooth to enhance rotational control.





The Horizontal

| 678-802

The Horizontal instrument produces an indentation to accent individual root torque. It also serves a second purpose by enhancing retention of either clear aligners or retainers by placing an indent into a tooth's undercut or below a bonded attachment.



Accent individual root torque by producing an indent at the gingival margin on either the buccal or lingual for any tooth in the arch form.



Increase clear aligner or retainer retentiveness by producing a horizontal indent into the undercut of specific teeth or just under an attachment.

The Hole Punch

| 678-803

The Hole Punch is used to create half-moon cutouts for relief of clear aligners around bonded buttons used for elastics. No need to attempt to attach buttons to plastic trays. In addition, the Hole Punch can nip away plastic to provide soft tissue clearance to prevent aligner impingement of tissue.



The Hole Punch is positioned at the gingival margin with one-half of the "circle" of the punch over the plastic of the aligner.



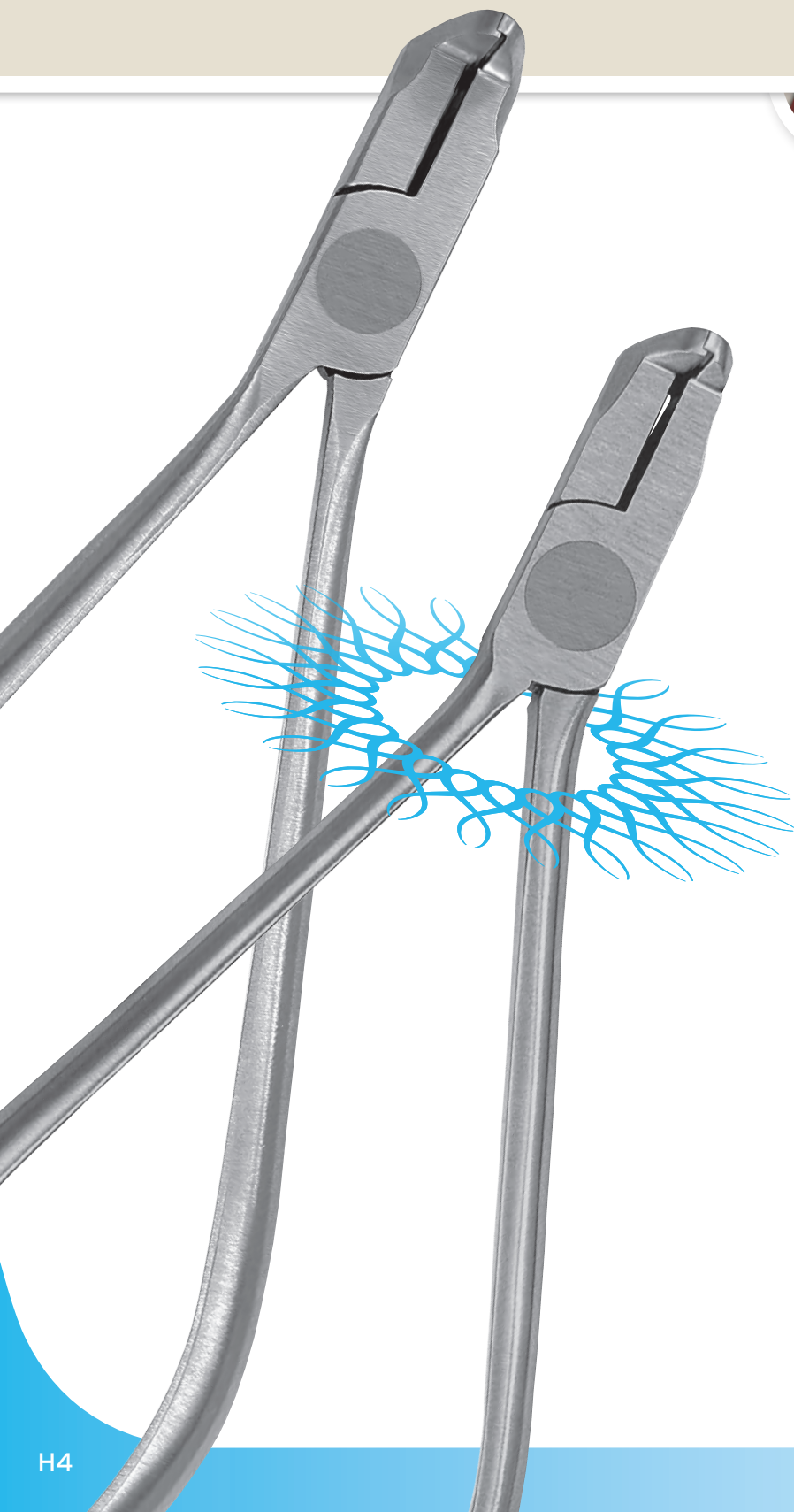
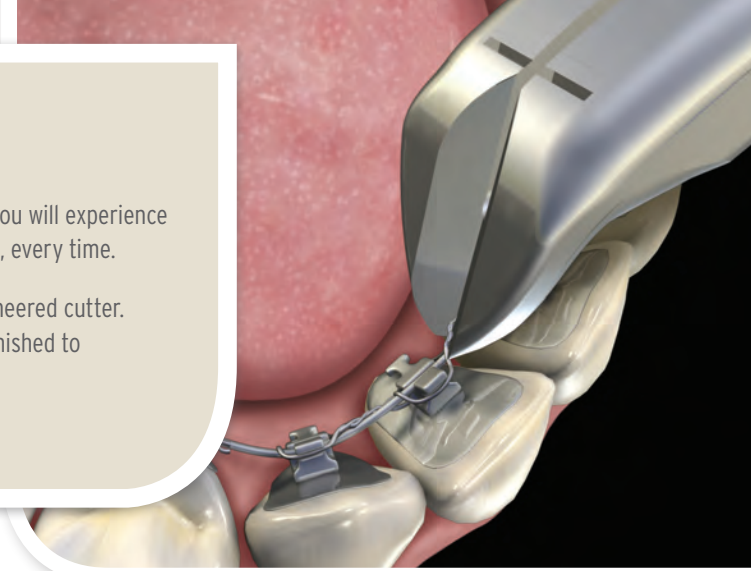
The half moon cutout can be placed on any tooth where bonded buttons or brackets are added for elastics or other biomechanics.



CUTTERS

With our diamond-honed cutting edges and orbit-formed joint, you will experience sharp and accurately-aligned cutting edges for every procedure, every time.

For each individual area of focus, we provide a specifically engineered cutter. To meet these stringent standards, all of our blades are hand-finished to maximize cutting performance for the appropriate wire size.



Universal Cut & Hold Distal End Cutter

| 678-101

When used intraorally it safely holds the cut portion to be discarded. Patient comfort is enhanced by the smooth, tapered tip.

Wire size:
< = .012" to .021" x .025"
(.30 mm - .53 mm x .64 mm)

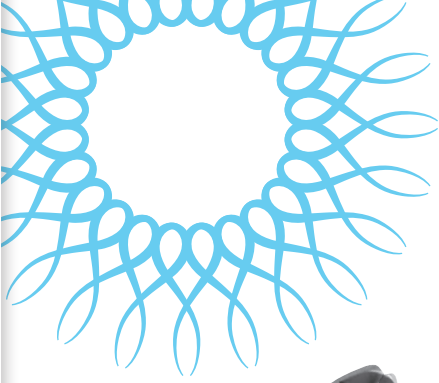
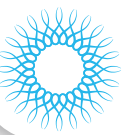


Universal Cut & Hold Distal End Cutter with Long Handle

| 678-101L

Same as 678-101, with long handle.

Wire size:
< = .012" to .021" x .025"
(.30 mm - .53 mm x .64 mm)



**Flush Cut Distal End
Cutter, No Hold**

| 678-102

An exceptional universal
cutter for all types of wires.

Wire size:
< = .021" x .025"
(.53 mm x .64 mm)



Multi-Use Cutter

| 678-105

Designed to cut soft wire
pins and ligature wires.

Wire size:
< = .015" (.38 mm)



Hard Wire Cutter, 15°

| 678-103

15° offset tip enhances
access in difficult areas.
Designed to cut hard wires.

Wire size:
< = .022" x .028"
(.56 mm x .71 mm)



Mini Pin & Ligature Cutter

| 678-106

Slim profile is a plus in
difficult to access areas.
Designed to cut soft wire
pins and ligature wires.

Wire size:
< = .012" (.30 mm)

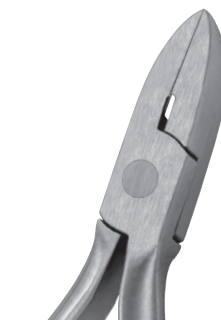


Hard Wire Cutter

| 678-104

Designed to cut hard wires.

Wire size:
< = .022" x .028"
(.56 mm x .71 mm)

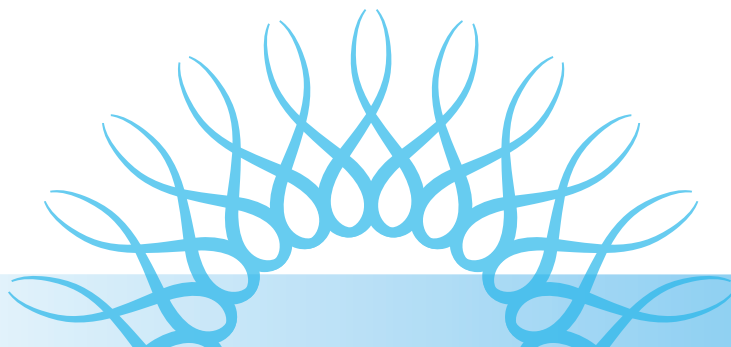


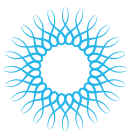
**Micro-Mini Pin
& Ligature Cutter**

| 678-107

Ultra slim profile is a plus in
the most difficult to access
areas. Designed to cut soft
wire pins and ligature wires.

Wire size:
< = .012" (.30 mm)





Micro-Mini Pin & Ligature Cutter with Long Handle

| 678-107L

Same as 678-107, with long handle.

Wire size: < = .012" (.30 mm)



Slim Flush Cut & Hold Distal End Cutter

| 678-113

Cuts and holds wire distally flush to the buccal tube while reducing debondings. Designed for all types of wires.

Wire size:

< = .012" to .021" x .025" (.30 mm - .53 mm x .64 mm)



Micro-Mini Pin & Ligature Cutter, 15°

| 678-109

15° offset tip with ultra slim profile is a plus in the most difficult to access areas. Designed to cut soft wire pins and ligature wires.

Wire size:

< = .012" (.30 mm)



Slim Micro Cutter

| 678-500

The slender tip allows for easier access when removing elastics. The face of the cutter has been *scooped out* and reduced by 13% as compared to our original 678-110 to enhance visibility.

Wire size:

< = .008" to .012"



Micro Cutter

| 678-110

Ligature cutter with reduced tip dimension. Designed to cut soft wire pins and ligature wires.

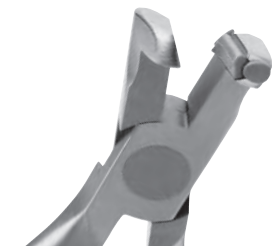
Wire size: < = .012" (.30 mm)



Lingual Distal End Cutter

| 678-700

Wire size: .012" to .018"



Flush Cut & Hold Distal End Cutter

| 678-111

Cuts and holds wire distally flush to the buccal tube while reducing debondings. Designed for all types of wires.

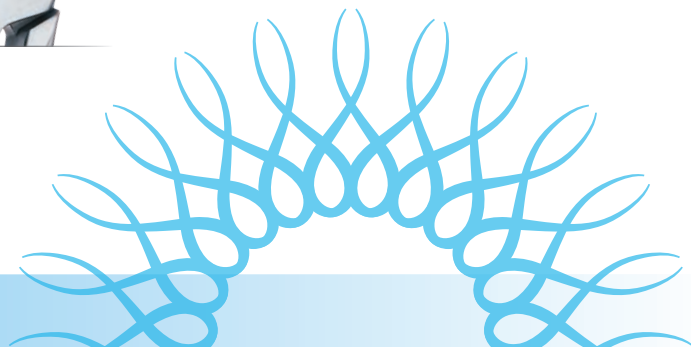
Wire size: < = .020" (.51 mm)

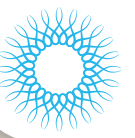


Lingual Pin & Lig Cutter

| 678-701

Wire size: < = .012"





UTILITY PLIERS

Strong, yet lightweight and perfectly balanced, the dimensions of these instruments are perfectly proportioned, they fit your grasp with unsurpassed ease. Designed to provide superior control with effortless versatility, Hu-Friedy's Utility Pliers assure comfort to both you and your patients.



Weingart Pliers

| 678-201

Versatile utility pliers with serrations. Tapered 32° angular design is convenient for placement and removal of archwires.



Slim Weingart Pliers

| 678-202

Slim, tapered 20° tips with serrations offer greater access and versatility.



Weingart Pliers with Long Handle

| 678-201L

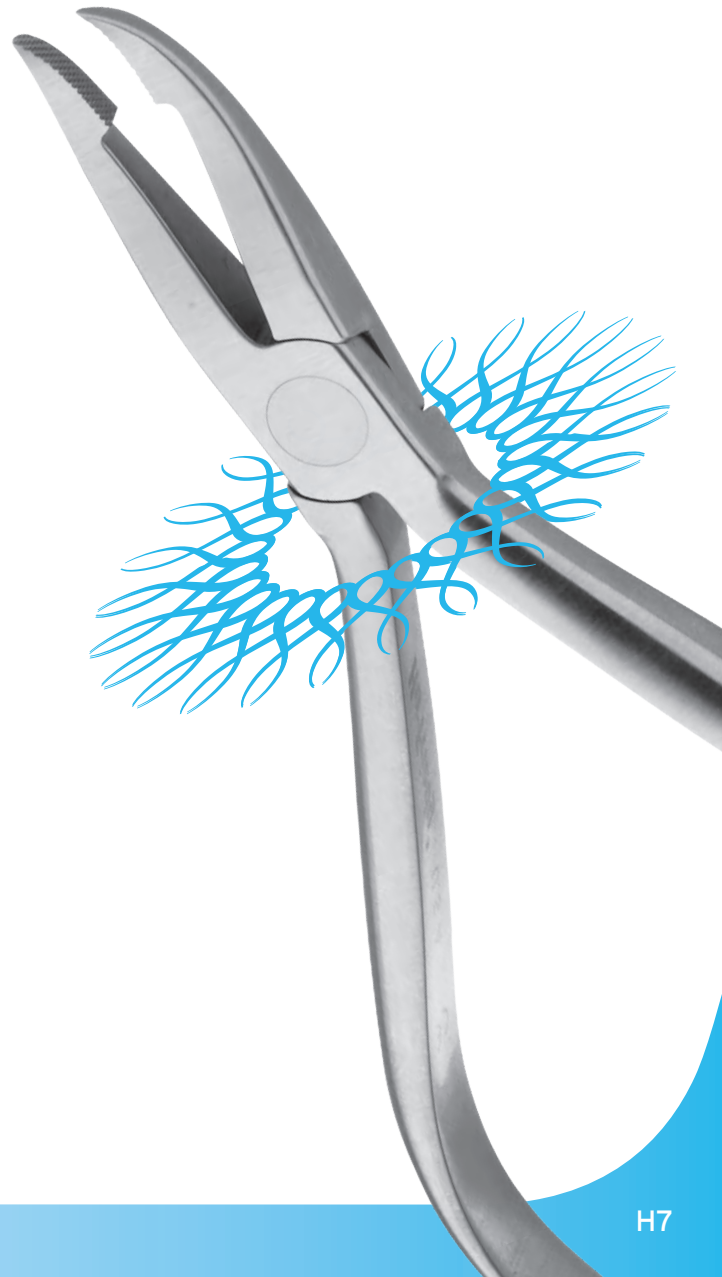
Same as 678-201, with long handle.

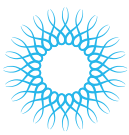


How Pliers

| 678-203

How utility pliers have serrated tips. Useful for placement and removal of archwires, pins and other auxiliaries.





UTILITY PLIERS



How Pliers, Offset
| 678-204

Similar to the straight How pliers, except tips are angled at 40° for accessing lingual and other hard to reach areas.



Band Seating Pliers
| 678-205

Serrated tips grip brackets to assist in placing bands.



Adhesive Removing Pliers
| 678-206

Reversible, replaceable blade is used to remove the bulk of composite material after debonding attachments.



Posterior Band Removing Pliers, Long
| 678-207

The alignment of the tip and occlusal pad is well suited for posterior band removal.



Posterior Band Removing Pliers, Short
| 678-208

The offset alignment of the tip and occlusal pad is well suited for band removal.



Force Module Separating Pliers
| 678-210

Used for placement of elastic separators.



Coon Style Ligature Tying Pliers
| 678-211

Most popular pliers for tying stainless ligature wires.
Wire size: < = .015" (.38 mm)



Tip Back Pliers
| 678-216

Bends down the distal extension of an archwire protruding past the buccal tube. Unique contra-angle design allows for easy intraoral access. With long handle.
Wire size: < = .022" x .025" (.53 mm x .64 mm)



Bracket Removing Pliers
| 678-219

Works well for steel, ceramic and plastic brackets of all types.



Angulated Bracket Removing Pliers
| 678-220L

High angle design in long handle is effective for removal of all bracket styles from anterior and posterior teeth.



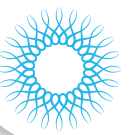
Crown & Band Contouring Pliers
| 678-221

Designed for fitting of stainless steel crowns and bands.



Slim Crown & Band Contouring Pliers
| 678-221M

Same as 678-221, with slimmer beak.



Slim Crown & Band Contouring Pliers

| 678-221MC

Same as 678-221, with slimmer beak.



Steiner Tying Pliers

| 678-222

Ideal for tying stainless steel ligature wires.

Wire size: < = .015" (.38 mm)



Band Crimping Pliers

| 678-225

Thin tips allow for easy access into molar and bicuspid bands.



Band Crimping Pliers with Spring

| 678-225M

Thin tips allow for easy access into molar and bicuspid bands. With spring.



Ultra Slim Weingart Pliers

| 678-501

Wire size: < = .030"



Slim Band Removing Pliers

| 678-503

With a 21% thinner and more tapered working end compared to our original 678-207 model, the Slim Band Removing Pliers allow for easy accessibility helping limit patient discomfort.



Lingual Weingart Pliers

| 678-702

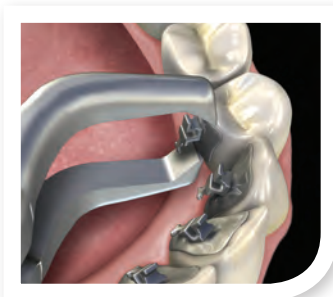
Wire size: < = .030"



Lingual Weingart Pliers, 90° Bend

| 678-702-90

Wire size: < = .030"

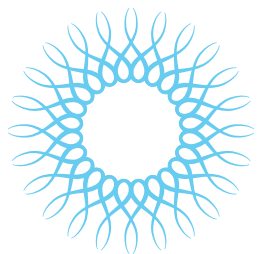


Lingual view of the Lingual Bracket Removing Pliers debonding the bracket.



Lingual Bracket Removing Pliers

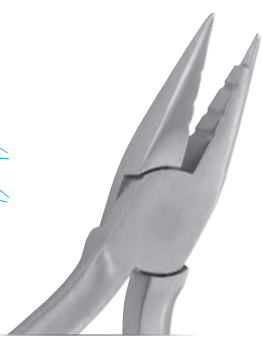
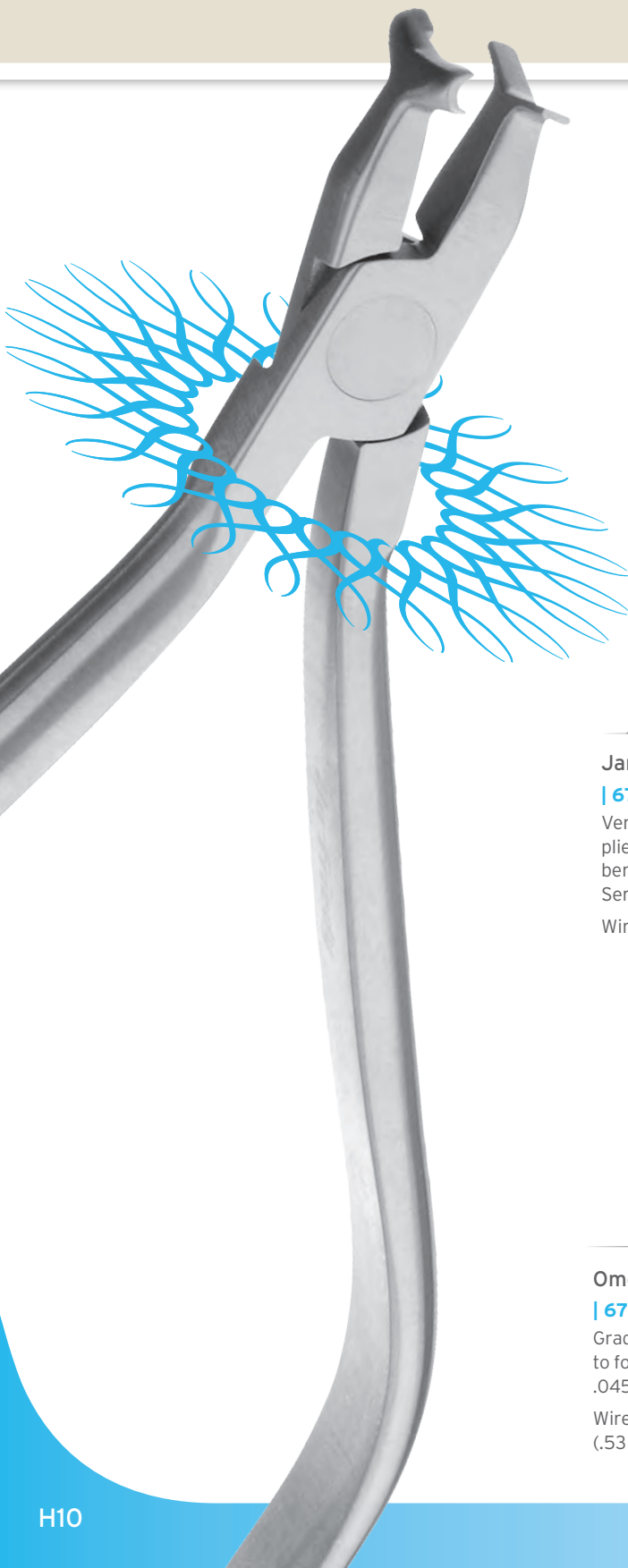
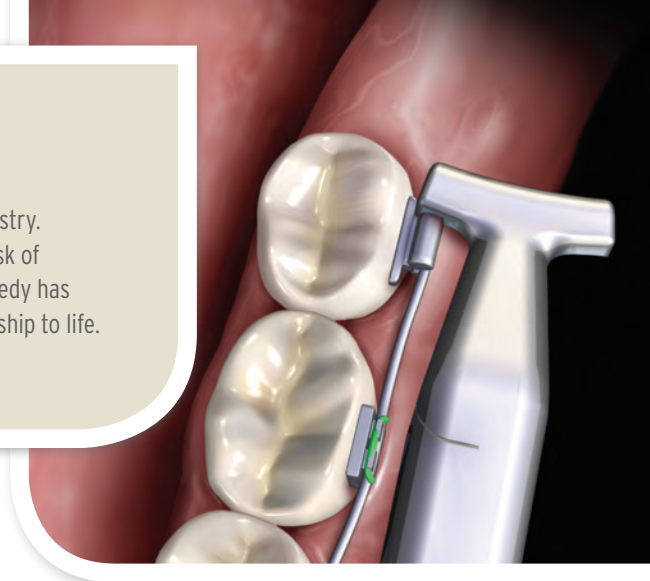
| 678-703





WIRE FORMING PLIERS

These instruments perform as natural extensions of your professional artistry. Our impeccably smooth finished tips allow you to bend the wire without risk of damage. Whether you are shaping stainless steel or nickel titanium, Hu-Friedy has a hand-finished, precision instrument to help bring your brilliant workmanship to life.



Jarabak Pliers

| 678-301

Versatile light wire bending pliers. Grooves assist with precise bending and closing of loops. Serrated surface grips wires.

Wire size: $\leq .020$ " (.51 mm)

Three Jaw Pliers

| 678-302

Useful for contouring and bending wire.

Wire size: $\leq .030$ " (.76 mm)

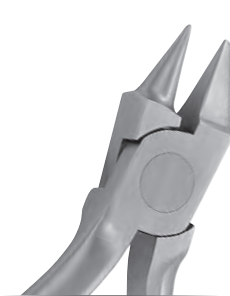


Omega Loop Forming Pliers

| 678-303

Graduated cone is designed to form precise omega loops: .045", .060" and .075"

Wire size: $\leq .022$ " x .025"
(.53 mm x .64 mm)

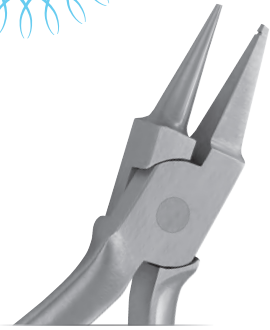
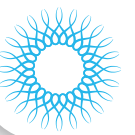
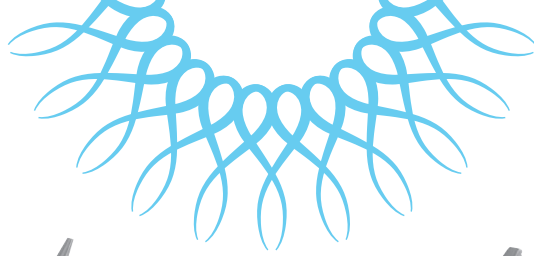
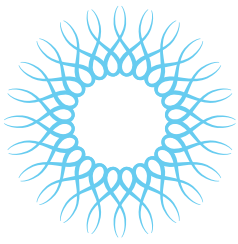


Bird Beak Pliers

| 678-304

Versatile loop forming pliers for round wires.

Wire size: $\leq .030$ " (.76 mm)



Light Wire Bird Beak Pliers with Groove

| 678-305

A longer cone than a standard bird beak is useful for forming precise loops in light wire. The groove allows for locating and duplicating loops.

Wire size: < = .020" (.51 mm)

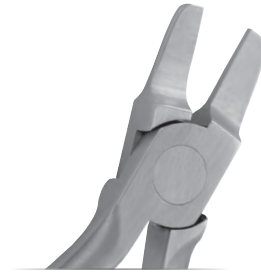


Tweed Loop Forming Pliers

| 678-306

Loop forming pliers with .055", .075" and .090" diameters for creating bull and helical loops in wires.

Wire size: < = .022" x .025" (.53 mm x .64 mm)



Arch Bending Pliers

| 678-307

Designed for placing first, second and third order bends, .050" blade width.

Wire size: < = .022" x .025" (.53 mm x .64 mm)



Tweed Pliers, Slim

| 678-307S

Designed for placing first, second and third order bends, .025" blade width.

Wire size: < = .022" x .025" (.53 mm x .64 mm)



Rectangular Arch Bending Pliers

| 678-308

Designed for placing first, second and third order bends, .070" blade width.

Wire size: < = .022" x .025" (.53 mm x .64 mm)



Lingual Arch Forming Pliers

| 678-309

Designed to create double back and triple back bends in .030" and .036" lingual arch wires.

Wire size: < = .036" (.91 mm)



Hollow Chop Contouring Pliers

| 678-310

Perfect for subtle contouring of arch wires.

Wire size: < = .030" (.76 mm)



O'Brien Pliers

| 678-311

For precise forming of small helical loops and intraoral tip back bends.

Wire size: < = .020" (.51 mm)



Mini Three Jaw Pliers

| 678-312

Tips are rounded for ease of contouring light wire.

Wire size: < = .030" (.76 mm)



WIRE FORMING PLIERS



General Contouring Pliers

| 678-315

Tapered, serrated pliers for ease of contouring archwires.

Wire size: < = .021" x .025"
(.53 mm x .64 mm)



Marcotte Looping Pliers

| 678-316

For precise forming of helical loops and T loops. No right angles. Prevents stress fracture of wires.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



Hollow Chop Pliers

| 678-317

Same as 678-310, with reduced radius.

Wire size: < = .030" (.76 mm)



Light Wire Bird Beak Pliers

| 678-318

A longer cone than a standard bird beak is useful for forming precise loops in light wire.

Wire size: < = .020" (.51 mm)



Nance Loop Forming Pliers

| 678-319

For precise forming of loops in four lengths: 3, 4, 5 and 6 mm. Groove at base aids in closing loops.

Wire size: < = .022" (.53 mm)



Adams Pliers

| 678-320

Excellent precise right angle bends and appliance application.

Wire size: < = .040" (1.01 mm)



V-Stop Pliers

| 678-321

Places V bend in archwires, including nickel titanium, to prevent archwire from traveling.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



NiTi Three Jaw Pliers

| 678-322

Designed for forming and contouring of all archwire, especially for NiTi.

Wire size: < = .020" (.51 mm)

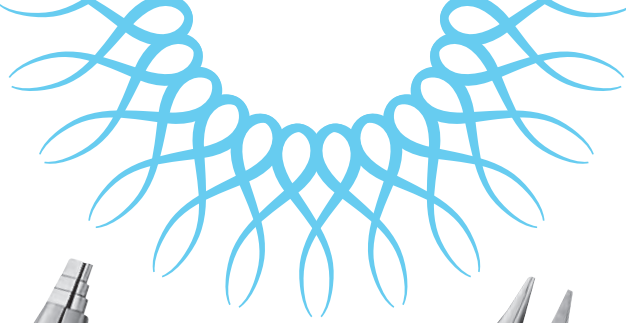
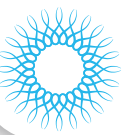


Optical Pliers

| 678-323

Excellent for forming helical closing loops and arch adjustments.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



Old Style Loop Pliers

| 678-324

Provides optimum accuracy and precision in forming and closing loops with one cylindrical three-step beak and one triangular beak.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



Bird Beak Pliers with Cutter

| 678-325

Smooth bending surfaces for a range of loop sizes while providing a sharp blade for cutting.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



Long Tapered Bird Beak Pliers

| 678-326

Bends a variety of smooth loops.

Wire size: < = .022" x .025"
(.53 mm x .64 mm)



**Hammerhead®
NiTi Tie-Back Pliers**

| 678-327

Multi-use NiTi bender, no heat.

Wire size: < = .025" (.63 mm)



**Torquing Pliers with
.016" / .018" key**

| 678-328-20

Torquing Pliers with
.018" / .022" key

| 678-328-21



Step Pliers

| 678-340

Step size = 1/2 mm

| 678-341

Step size = 3/4 mm

| 678-342

Step size = 1 mm



**Slim Hammerhead
NiTi Pliers**

| 678-502

For NiTi wire only, no heat.

Wire size: < = .025"



**Lingual Hammerhead
NiTi Pliers**

| 678-704

Wire size: < = .025"



**Lingual Hammerhead
NiTi Pliers with Serrations**

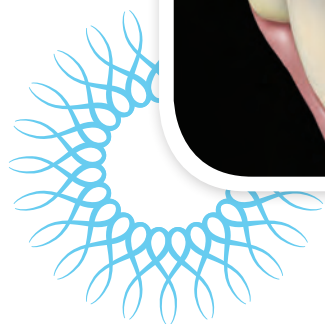
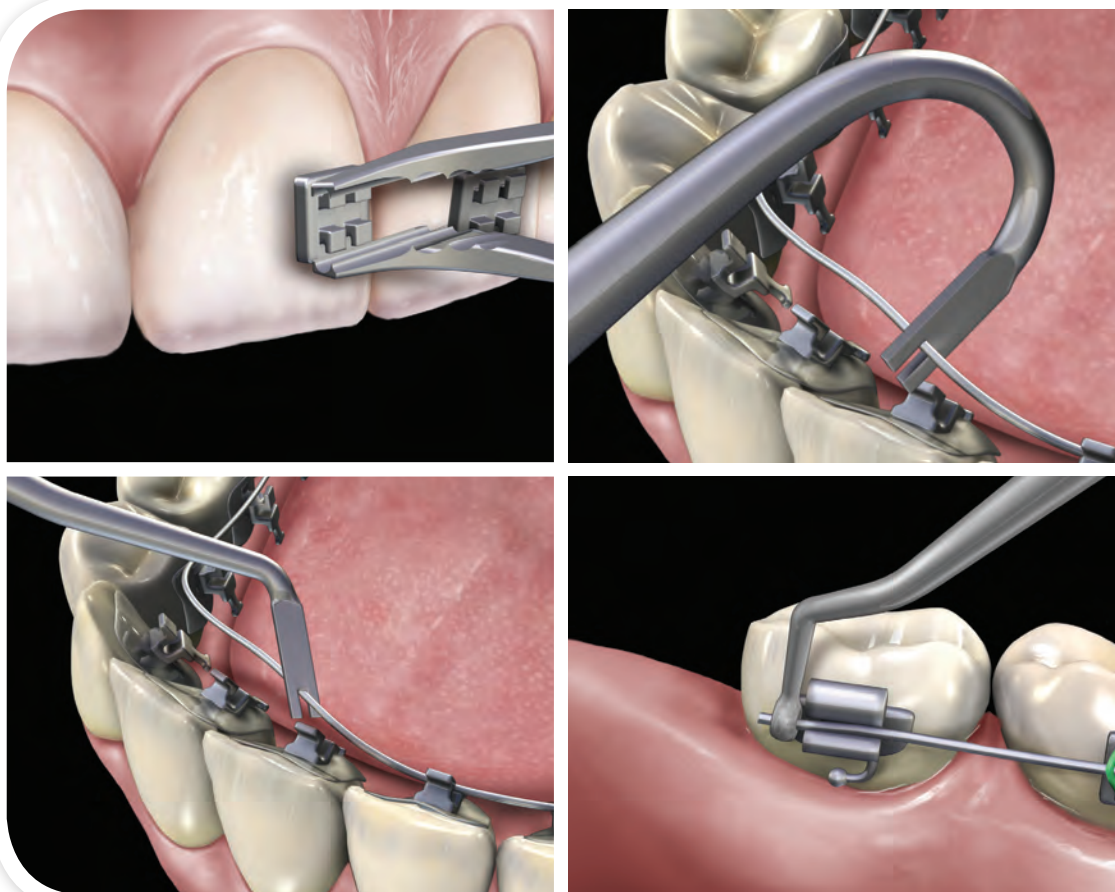
| 678-704SER

Wire size: < = .025"



HAND INSTRUMENTS

All of our Orthodontic hand instruments are available in a variety of ergonomic handle sizes to accommodate your personal preference. Finely tuned to achieve accurate weight, balance and tip alignment, Hu-Friedy produces only the highest caliber tips and handles, in the manner of precision and excellence you demand.



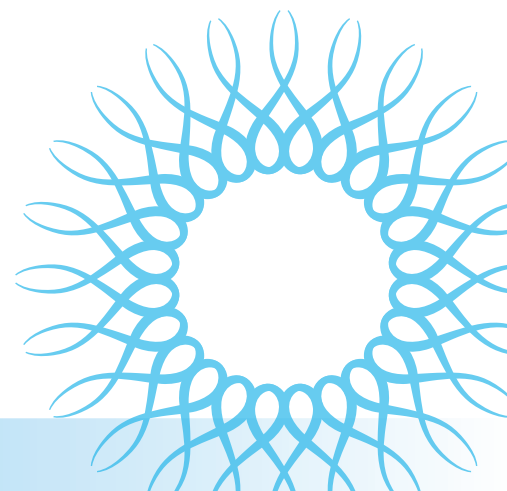
Tweezers

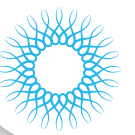
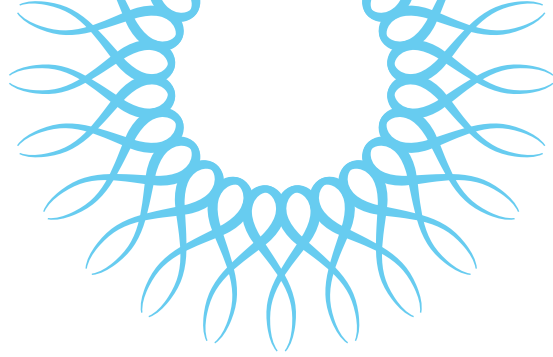
Directors

Pluggers

Scalers

Band Pushers





Direct Bond
Bracket
Holder
| 678-212



Slim Direct
Bond
Bracket
Holder
| 678-212M



Slim Direct
Bond
Bracket
Tweezers
| 678-504



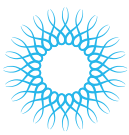
Slim Buccal
Tube
Bonder
Tweezers
| 678-505



Distal Cinch
Back Hand
Instrument
| 678-506
Wire size:
< = .021" x .025"



Lingual
Ligature
Director
| 678-706
Wire size:
< = .021" x .025"



HAND INSTRUMENTS



Lingual
Ligature
Director,
U Shape

| 678-707

Wire size:
< = .021" x .025"



Scaler/
Band
Pusher

| 678-904



Ligature
Director
Scaler

| 678-905



Dull Scaler/
Band
Pusher

| 678-906



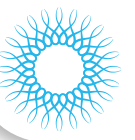
Small
Plugger/
Picker

| 678-907



Ligature
Director/
Band
Pusher

| 678-908



Large
Plugger/
Picker
| 678-909



Dull
Scaler
| 678-910



Dull
Scaler
| 678-911



Ligature
Director/
Band Pusher
| 678-912



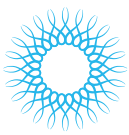
Dull
Scaler
| 678-913



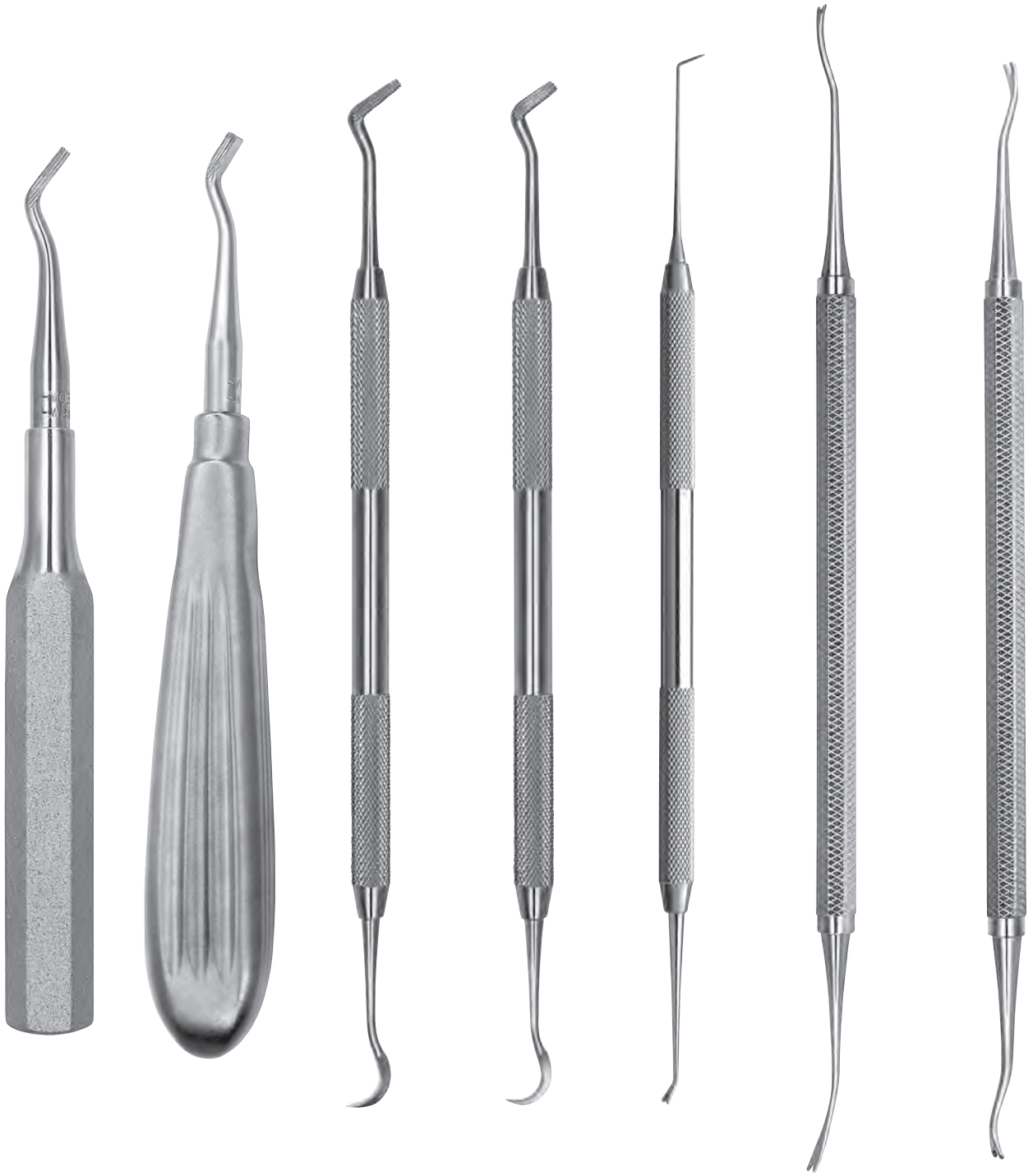
Scaler/
Picker
| 678-914



Picker/
Ligature
Director
| 678-916



HAND INSTRUMENTS



**Band Pusher
| BP300**

Aids in placement and burnishing of band.

**Band Pusher with Short Tip
| BP300S**

Same as BP300 except the working end is shorter.

**Band Pusher/Scaler
| BPS1**

Versatile instrument for band placement and cleanup of band cement.

**Band Pusher/Scaler
| BPS2**

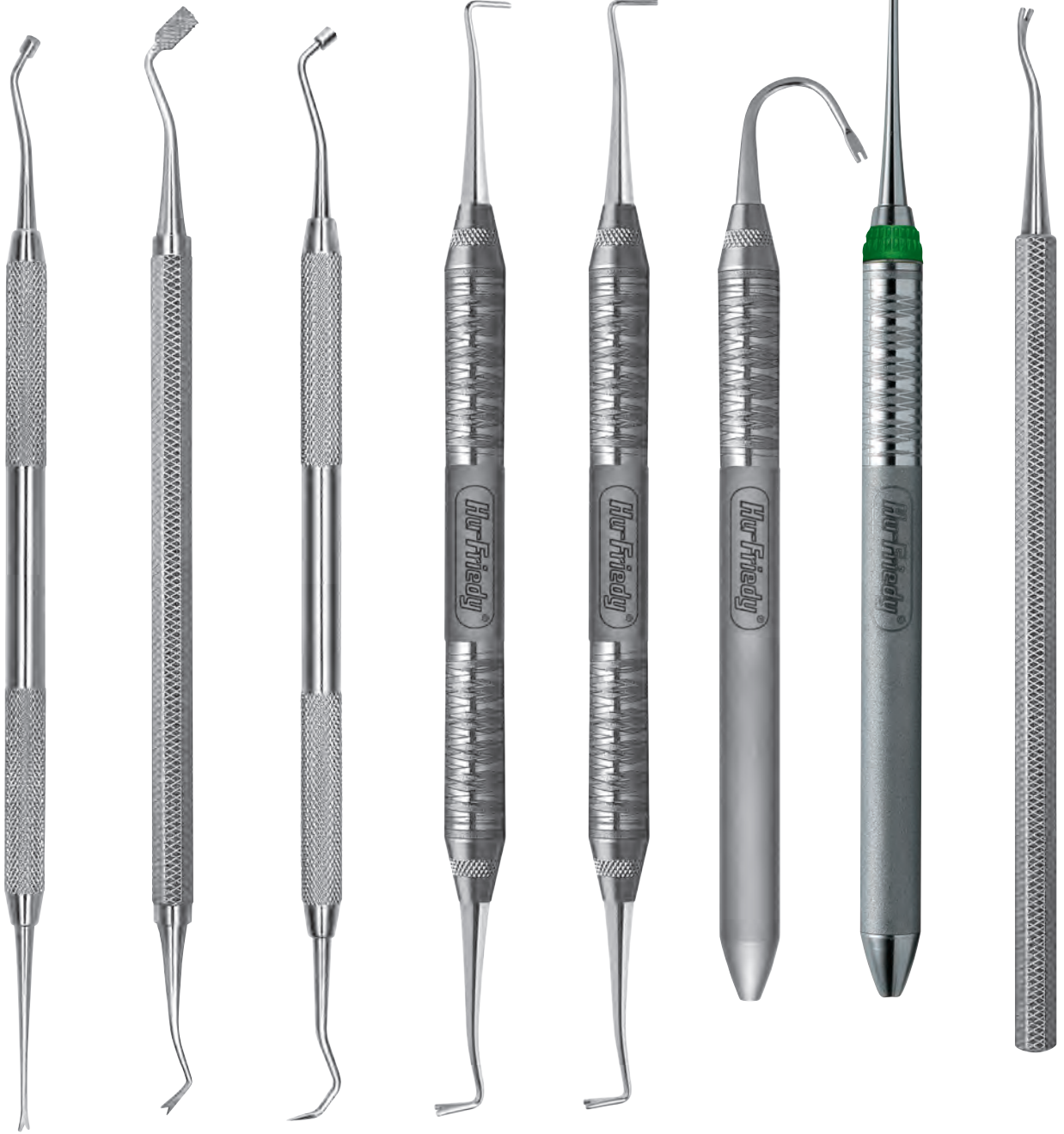
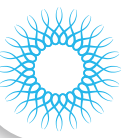
Same as BPS1 except the working end of the band pusher is shorter.

**Fillion Explorer/Ligature Director
| FE/LD**

Ideal for placing and removing elastic ligatures with lingual brackets.

**Ligature Director
| LD1**

**Ligature Director
| LDG2**



Ligature Director/
Plugger
| LDP

Ligature Director
Tucker
| LDT

Plugger/
Ligature
Picker
| PLPK

Lingual
Ligature
Director,
.018"
| SNLD1

Lingual
Ligature
Director,
.025"
| SNLD2

Lingual
Torquing
Key
| TK018
Designed for
proper wire
placement
and improved
torque
expression in
an .018" slot
lingual system.

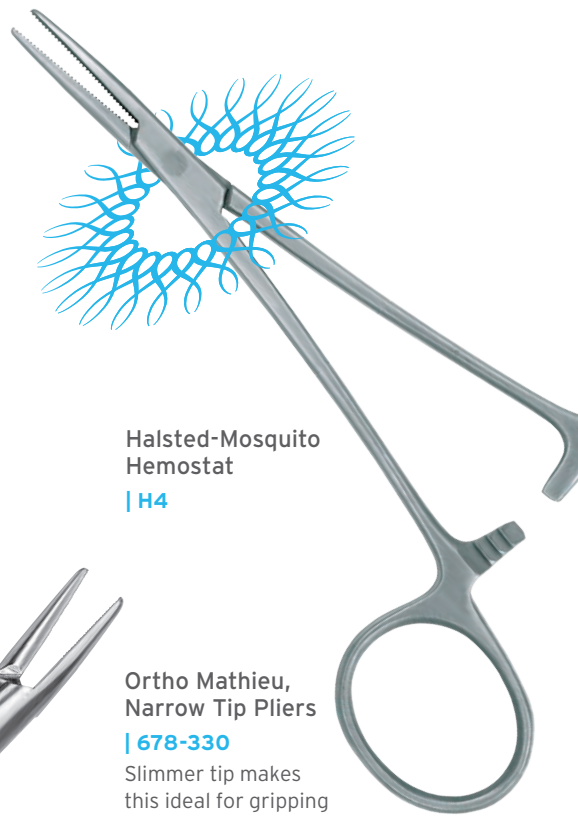
Straight
.020"
Applicator
| TK020S

Single End
Ligature
Director
| WBI-M/R

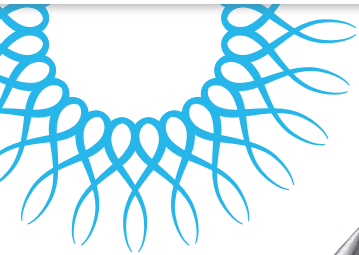


MATHIEUS, SCISSORS & HEMOSTATS

Created with the same meticulous attention to detail as our pliers, Hu-Friedy hinged instruments are also forged from Immunity Steel® Alloy, making them resistant to rust and corrosion.



Halsted-Mosquito Hemostat
| H4



Crown & Gold Scissors Curved
| SCGC

Crown & Gold Scissors Pedo
| SCGCP

Crown & Gold Scissors Straight
| SCGS

Wire-Cutting Scissors
| WCS
Serrated blade; notch for soft wire-cutting.

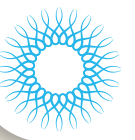


Ortho Mathieu, Narrow Tip Pliers
| 678-330
Slimmer tip makes this ideal for gripping and placing elastic auxiliaries.

Ortho Mathieu, Wide Tip Pliers
| 678-331
With wider, stronger tips.

Ortho Mathieu, Perma Sharp® Pliers
| 678-332
Thin tips made with Carbide inserts.

Lingual Mathieu Pliers
| 678-705



ORTHO ACCESSORIES AND REFERENCE

Replacement Parts

Replacement blade for 678-206
Quantity: 1 | **678-001**

Replacement blade for 678-303
Quantity: 1 | **678-002**

Silicone Insert for 678-111
Quantity: 3 | **678-011**

Silicone Insert for 678-113
Quantity: 3 | **678-013**

1/4" Replacement pads for 678-207, 678-208, 678-503
Quantity: 6 | **678-014**

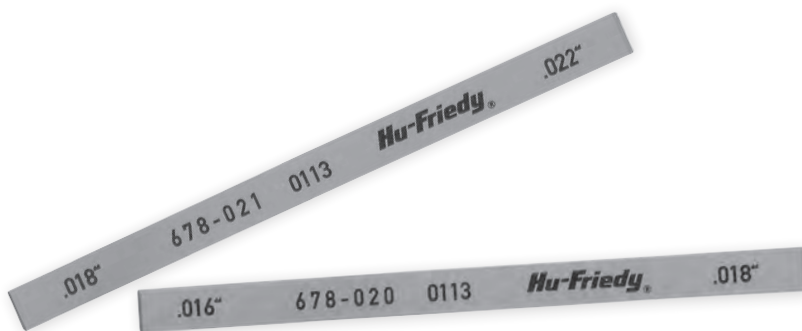
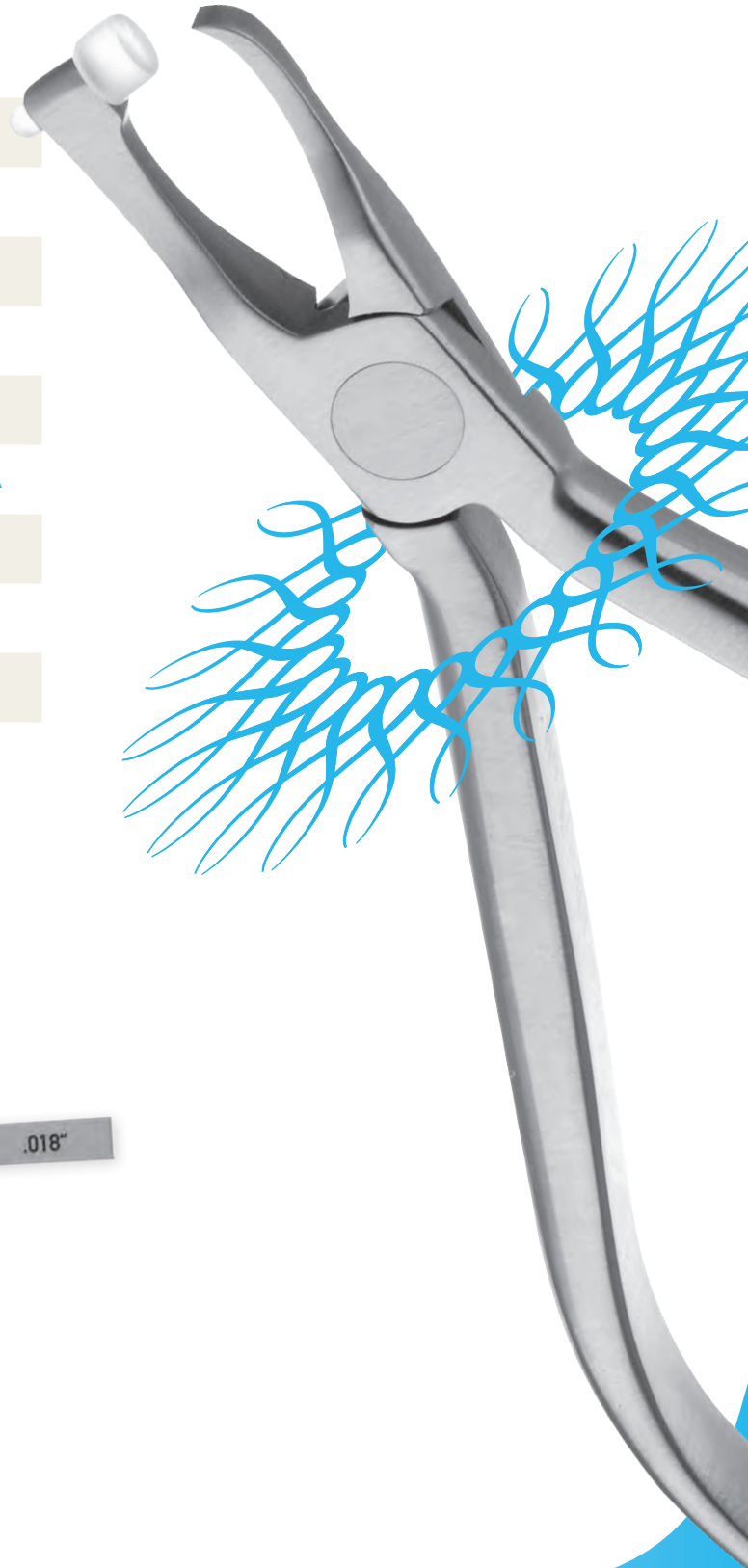
1/4" Replacement pad for 678-206
Quantity: 6 | **678-014A**

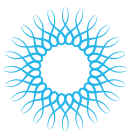
1/8" Replacement set screw for 678-303
Quantity: 1 | **678-018**

Torquing Key .016" / .018"
Quantity: 1 | **678-020**

Torquing Key .018" / .022"
Quantity: 1 | **678-021**

3/16" Replacement pad for 678-207, 678-208, 678-503
Quantity: 6 | **678-036**





HINGED INSTRUMENTS

All hinged instruments – forceps, rongeurs, scissors, pliers, hemostats, orthodontic pliers, etc.–should be kept lubricated. Regular use of proper lubricants, like Hu-Friedy Penetrating Oil (IPS) and Instrument Lubricant Spray (ILS), will prevent rust, corrosion and stiff joints and will ensure smooth operation. (Household lubricants and handpiece lubricants are NOT recommended.)

INSTRUMENT CLEANING

All instruments need to be cleaned before they are sterilized. They should be washed with a non-corrosive, low sudsing neutral detergent. Instrument cleaning can be accomplished by ultrasonic cleaning, which is the method of choice to prevent hand injuries caused by hand scrubbing.

INSTRUMENT STERILIZATION

Sterilization is a process that kills microorganisms. There are three common methods of heat sterilization used in the dental office that can be verified by spore testing (steam autoclave, dry heat, and chemical vapor). Sterilize hinged instruments in the open position. For a comparison of heat sterilization methods, visit our website at Hu-Friedy.com.

SHARPENING

Sharpen cutters regularly. How often depends on such factors as the frequency of use, types of applications the cutter is being used in, etc. Routinely inspect cutters to determine if sharpening is required. Sharp instruments cut more efficiently and regular sharpening will enhance the life of your cutter.

DO'S & DON'TS OF PROCESSING INSTRUMENTS

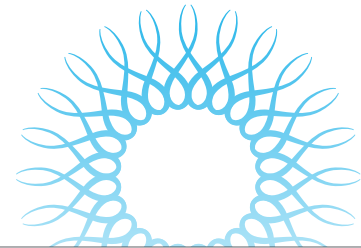
For best results, Hu-Friedy recommends the use of ultrasonics for instrument cleaning and steam autoclaves for sterilization. Never use tartar remover on instruments. For light stains, we recommend Shine reNEW™ Cleaner. Never spray surface disinfectant near instruments. Use only approved lubricant (Never use WD-40 or Handpiece lube).

STAINLESS STEEL INSTRUMENTS

While stainless steel has superior corrosion resistance, it will discolor and corrode when exposed to higher than recommended chemical concentrations or certain chemicals.

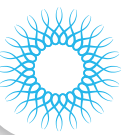
Stainless steel should not be exposed to the following chemicals: Sodium Hypochlorite (household bleach), Tartaric Acid (stain and tartar remover), Aluminum Chloride, Barium Chloride, Bichloride of Mercury, Calcium Chloride, Carbolic Acid, Chlorinated Lime, Citric Acid, Dakin's Solution, Ferrous Chloride, Lysol, Mercuric Chloride, Mercury Salts, Phenol, Potassium Permanganate, Potassium Thiocyanate or Stannous Chloride.

The following chemicals should NEVER be used with stainless steel: Aqua Regia, Ferric Chloride, Sulfuric Acid, Hydrochloric Acid or Iodine.

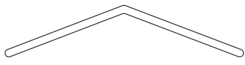


TROUBLESHOOTING

PROBLEM	CAUSE	PREVENTION
SPOTTING	<ul style="list-style-type: none"> • Insufficient rinsing after ultrasonic cleaning • Insufficient drying after ultrasonic cleaning • Not changing ultrasonic solution • Sterilizer has not been cleaned 	<ul style="list-style-type: none"> • Rinse thoroughly under steady stream of water for 30 seconds • Rinse with hot water • Optional: Dip cassettes in alcohol after rinsing • Solution should be changed at least once a day • Sterilizers should be cleaned weekly • Use only distilled water for reservoir
RUST	<ul style="list-style-type: none"> • Corrosion from carbon steel instruments spreads to stainless steel instruments 	<ul style="list-style-type: none"> • Separate stainless and carbon instruments • For carbon steel instruments: Dip in pre-sterilized rust-inhibiting solution as suggested by sterilizer manufacturer
PITTING	<ul style="list-style-type: none"> • Chemical attack on instruments 	<ul style="list-style-type: none"> • Rinse and dry instruments thoroughly • Use approved cleaning, sterilization solutions only • Never use household bleach or stain and tartar remover



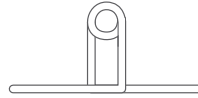
WIRE BENDS



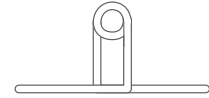
| 678-302
Three Jaw Pliers



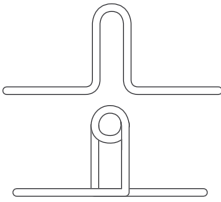
| 678-303
Omega Loop Forming Pliers



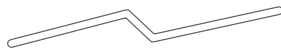
| 678-304
Bird Beak Pliers



| 678-305
| 678-318
Light Wire Bird Beak Pliers
with and without Groove



| 678-306
Tweed Loop Forming Pliers



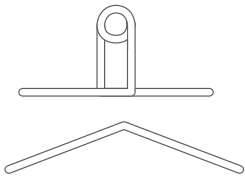
| 678-307
Arch Bending Pliers



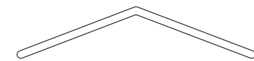
| 678-308
Rectangular Arch Bending Pliers



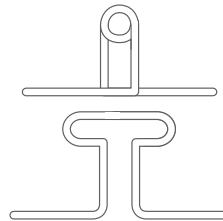
| 678-309
Lingual Arch Forming Pliers



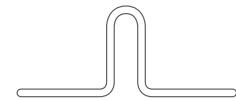
| 678-311
O'Brien Pliers



| 678-312 **| 678-322**
Mini Three NiTi Bender,
Jaw Pliers 3-Prong



| 678-316
Marcotte Pliers



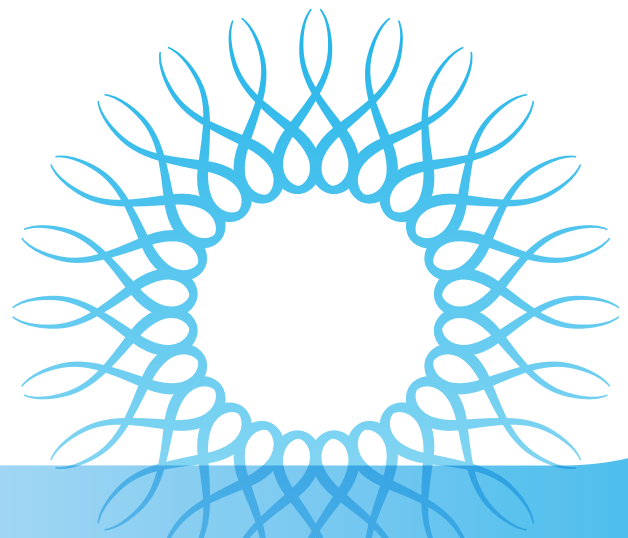
| 678-319
Nance Loop Forming Pliers

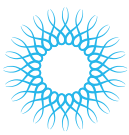


| 678-320
Adams Pliers



| 678-321
V-Stop Pliers





INSTRUMENT WIRE CAPACITIES

CLEAR COLLECTION

PART CODE	DESCRIPTION	WIRE CAPACITY (INCHES)	WIRE CAPACITY (METRIC)
678-800	The Tear Drop	not used on wire	not used on wire
678-801	The Vertical	not used on wire	not used on wire
678-802	The Horizontal	not used on wire	not used on wire
678-803	The Hole Punch	not used on wire	not used on wire

LINGUAL COLLECTION

678-700	Lingual Distal End Cutter	up to .018" arch wire	up to .45 mm arch wire
678-701	Lingual Pin & Lig Cutter	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-702	Lingual Weingart Pliers	up to .030" arch wire	up to .76 mm arch wire
678-702-90	Lingual Weingart Pliers with 90°	up to .030" arch wire	up to .76 mm arch wire
678-703	Lingual Bracket Removing Pliers	not used on wire	not used on wire
678-704	Lingual Hammerhead® NiTi Pliers	up to .025" NiTi wire	up to .63 mm NiTi wire
678-704SER	Lingual Hammerhead NiTi Pliers w/ Serrations	up to .025" NiTi wire	up to .63 mm NiTi wire
678-705	Lingual Mathieu	up to .015" soft ligature wire	up to .30 mm soft ligature wire
678-706	Lingual Ligature Director with Picker	up to .021" x .025"	up to .53 mm x .64 mm
678-707	Lingual Ligature Director, U-Shaped	up to .021" x .025"	up to .53 mm x .64 mm
678-708	Lingual Torquing Key with Picker	up to .018"	up to .46 mm

SLIM COLLECTION

678-500	Slim Micro Cutter	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-501	Ultra Slim Weingart Pliers	up to .030" arch wire	up to .76 mm arch wire
678-502	Slim Hammerhead NiTi Pliers	up to .025" NiTi wire	up to .63 mm NiTi wire
678-503	Slim Band Removing Pliers	not used on wire	not used on wire
678-504	Slim Direct Bond Bracket Tweezers	not used on wire	not used on wire
678-505	Slim Buccal Tube Bonder Tweezers	not used on wire	not used on wire
678-506	Distal Cinch Back	up to .021" x .025"	up to .53 mm x .64 mm

CUTTERS

678-101	Universal Cut & Hold Distal End Cutter	.012" to .021" x .025"	.30 mm to .53 mm x .64 mm
678-101L	Universal Cut & Hold Distal End Cutter, Long Handle	.012" to .021" x .025"	.30 mm to .53 mm x .64 mm
678-102	Flush Cut Distal End Cutter, No Hold	up to .021" x .025"	up to .53 mm x .64 mm
678-103	Hard Wire Cutter, 15°	up to .022" x .028"	up to .56 mm x .71 mm
678-104	Hard Wire Cutter, Straight	up to .022" x .028"	up to .56 mm x .71 mm
678-105	Pin & Ligature Cutter	up to .015" soft ligature wire	up to .38 mm soft ligature wire
678-106	Mini Pin & Ligature Cutter	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-107	Micro-Mini Pin & Ligature Cutter	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-107L	Micro-Mini Pin & Ligature, Long Handle	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-109	Micro-Mini Ligature Cutter, 15°	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-110	Micro Ligature Cutter, 15°	up to .012" soft ligature wire	up to .30 mm soft ligature wire
678-111	Flush Cut Distal End Cutter w/ Hold	up to .020" hold, up to .030" cut	up to .50 mm hold, up to 75 mm cut
678-113	Slim Flush Cut Distal End Cutter w/ Hold	.012" to .021" x .025"	.30 mm to .53 mm x 64 mm

UTILITY PLIERS

678-201	Weingart Pliers	up to .030" arch wire	up to .76 mm arch wire
678-201L	Weingart Pliers, Long Handle	up to .030" arch wire	up to .76 mm arch wire
678-202	Slim Weingart Pliers	up to .030" arch wire	up to .76 mm arch wire
678-203	How Pliers, Straight	up to .030" arch wire	up to .76 mm arch wire
678-204	How Pliers, Offset	up to .030" arch wire	up to .76 mm arch wire
678-205	Band Seating Pliers	not used on wire	not used on wire
678-206	Adhesive Removing Pliers	not used on wire	not used on wire
678-207	Posterior Band Removing Pliers, Long	not used on wire	not used on wire
678-208	Posterior Band Removing Pliers, Short	not used on wire	not used on wire
678-210	Force Module Separating Pliers	designed to place elastic separators	designed to place elastic separators
678-211	Coon Style Ligature Tying Pliers	up to .015" soft ligature wire	up to .38 mm soft ligature wire
678-212	Direct Bond Bracket Holder	not used on wire	not used on wire
678-212M	Slim Direct Bond Bracket Holder	not used on wire	not used on wire
678-216	Tip Back Pliers	up to .022" x .025"	up to .53 mm x .64 mm
678-219	Bracket Removing Pliers	not used on wire	not used on wire
678-220L	Angulated Bracket Removing Pliers	not used on wire	not used on wire
678-221	Crown & Band Contouring Pliers	not used on wire	not used on wire
678-221M	Slim Crown & Band Contouring Pliers	not used on wire	not used on wire
678-222	Steiner Tying Pliers	up to .015" soft ligature wire	up to .38 mm soft ligature wire
678-225	Band Crimping Pliers	not used on wire	not used on wire

WIRE FORMING PLIERS

PART CODE	DESCRIPTION	WIRE CAPACITY (INCHES)	WIRE CAPACITY (METRIC)
678-301	Jarabak Pliers	up to .020" arch wire	up to .51 mm arch wire
678-302	Three Jaw Pliers	up to .030" arch wire	up to .76 mm arch wire
678-303	Omega Loop Forming Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-304	Bird Beak Pliers	up to .030" arch wire	up to .76 mm arch wire
678-305	Light Wire Bird Beak Pliers with Groove	up to .020" light wire	up to .51 mm light wire
678-306	Tweed Loop Forming Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-307	Arch Bending Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-307S	Slim Arch Bending Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-308	Rectangular Arch Bending Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-309	Lingual Arch Forming Pliers	up to .036" arch wire	up to .91 mm arch wire
678-310	Hollow Chop Contouring Pliers	up to .030" arch wire	up to .76 mm arch wire
678-311	O'Brien Pliers	up to .020" arch wire	up to .51 mm arch wire
678-312	Mini Three Jaw Pliers	up to .030" arch wire	up to .76 mm arch wire
678-316	Marcotte Looping Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-317	Hollow Chop Contouring Pliers (Reduced Radius of 678-310)	up to .030" arch wire	up to .76 mm arch wire
678-318	Light Wire Bird Beak Pliers	up to .020" Light wire	up to .51 mm Light wire
678-319	Nance Loop Forming Pliers	up to .022" arch wire	up to .53 mm arch wire
678-320	Adams Pliers	up to .040" arch wire	up to 1.01 mm arch wire
678-321	V-Stop Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-322	NiTi 3-Prong Pliers	up to .020" arch wire	up to .76 mm arch wire
678-323	Optical Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-324	Old Style Looping Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-325	Bird Beak Pliers with Cutter	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-326	Bird Beak Pliers	up to .022" x .025" arch wire	up to .53 mm x .64 mm arch wire
678-327	Hammerhead® NiTi Pliers	up to .025" NiTi wire	up to .63 mm NiTi wire
678-328-20	Torquing Pliers with Key .016"/.018"	up to .018" arch wire	up to .45 mm arch wire
678-328-21	Torquing Pliers with Key .018"/.022"	up to .022" arch wire	up to .53 mm arch wire

MATHIEU PLIERS

678-330	Ortho Mathieu Pliers, Narrow	designed for elastics application	designed for elastics application
678-331	Ortho Mathieu Pliers, Wide	up to .015" soft ligature wire	up to .30 mm soft ligature wire
678-332	Perma Sharp® Ortho Mathieu Pliers	up to .015" soft ligature wire	up to .30 mm soft ligature wire

HAND INSTRUMENTS

678-904	Scaler/Band Pusher	not used on wire	not used on wire
678-905	Ligature Director/Scaler	up to .015" soft ligature wire	up to .30 mm soft ligature wire
678-906	Dull Scaler/Band Pusher	not used on wire	not used on wire
678-907	Small Plugger/Picker	not used on wire	not used on wire
678-908	Ligature Director/Band Pusher	up to .015" soft ligature wire	up to .30 mm soft ligature wire
678-909	Large Plugger/Picker	not used on wire	not used on wire
678-910	Dull Scaler	not used on wire	not used on wire
678-911	Dull Scaler	not used on wire	not used on wire
678-912	Ligature Director/Band Pusher	up to .015" soft ligature wire	up to .30 mm soft ligature wire
678-913	Dull Scaler	not used on wire	not used on wire
678-916	Picker/Ligature Director	up to .015" soft ligature wire	up to .30 mm soft ligature wire
BP300	Band Pusher	not used on wire	not used on wire
BP300S	Band Pusher x Short Tip	not used on wire	not used on wire
BPS1	Band Pusher/Scaler	not used on wire	not used on wire
BPS2	Band Pusher with Short Tip	not used on wire	not used on wire
FE/LD	Fillion Explorer/Ligature Director	up to .015" soft ligature wire	up to .30 mm soft ligature wire
LD1	Ligature Director	up to .015" soft ligature wire	up to .30 mm soft ligature wire
LDG2	Ligature Director	up to .015" soft ligature wire	up to .30 mm soft ligature wire
LDP	Ligature Director/Plugger	up to .015" soft ligature wire	up to .30 mm soft ligature wire
LDT	Ligature Director/Tucker	up to .015" soft ligature wire	up to .30 mm soft ligature wire
PLPK	Plugger/Ligature Picker	up to .015" soft ligature wire	up to .30 mm soft ligature wire
SNLD1	Lingual Ligature Director, .018"	up to .018" arch wire	up to .45 mm arch wire
SNLD2	Lingual Ligature Director, .025"	up to .025" arch wire	up to .64 mm arch wire
TK018	Lingual Torquing Key	designed for .018" slot/wire	designed for .45 mm slot/wire
TK020S	Straight Wire Applicator	designed for .020" slot/wire	designed for .50 mm slot/wire
TWLA	Twirl-On Ligature Applicator	designed for elastics application	designed for elastics application
WBI-M/R	Ligature Director	up to .015" soft ligature wire	up to .30 mm soft ligature wire