

Metalworking Tools, Equipment & Supplies



For Our Valued Customers

The Paul H. Gesswein Company is proud to bring to you our latest brochure featuring exciting new products for finishing and deburring:

- Ultramax MF multi-function ultrasonic polisher
- Dynabrade air powered tools
- Expanded line of Ushio air tools
- Shaviv deburring tools
- Our popular GMX & G-Flex cotton fiber mounted points in new shapes & sizes
- New "Hybrid" Shaped Finishing Stones
- Portable Dino-Lite analog and digital microscope systems for inspection, measurement, and documentation

Be sure to visit **www.gesswein.com** for all of the latest products, specials, and technical information. Our "Quick Order" form on the homepage makes ordering fast!

Please do not hesitate to give us a phone call to speak with one of our technical specialists should you have any questions: **1-800-544-2043**.

Thank you for your business and consideration.

Our New and Larger Headquarters – 201 Hancock Avenue, Bridgeport, CT 06605



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ULTRAMAX MF O 10 O IUM O 10 O IUM

Optional Handpieces

Reciprocating Profiler Z-6X



Brushless Rotary Handpiece 50,000rpm



ULTRAMAX[®] **MF** (Multi-Function) Polishing & Deburring System

Reduce finishing time dramatically!

The first multi-function system for polishing, deburring, and metal removal. **ULTRAMAX MF** is supplied with an ultrasonic handpiece, and will power optional mechanical rotary and reciprocating handpieces. Has receptacles for both brush-type and brushless handpieces — the full range of Gesswein Power Hand Handpieces (p.10-13).

ULTRAMAX MF unit polishes slots, ribs, and intricate details with ease. Short stroke and fast reciprocation provide total control over the most demanding polishing tasks. Special control functions make any finish possible, letting you polish right up to a wall or finish to an edge.

ULTRAMAX MF is unaffected by metal hardness. Even the toughest metals, including tungsten carbide and titanium, are no match. Everything from milled surfaces to rough EDM surfaces can be polished to a mirror finish. Use all grades of finishing stones, sintered, resin, and plated diamond tools, as well as ceramic stones, and metallic & nonmetallic lapping tools with diamond compounds.

The *Multi-Function* **ULTRAMAX MF** gives you the versatility of ultrasonic and mechanical polishing in one package. The MF utilizes a high-efficiency microprocessor to deliver power to ultrasonic, brushless DC, and brush-type DC handpieces. The included ultrasonic handpiece provides 36W of continuously variable power for precision reciprocating action. The DC output provides exceptional power to any of the Gesswein rotary, reciprocating, side-to-side, or belt sander handpieces. The optional brushless handpiece provides up to 50,000rpm of high speed and high torque power for rotary operations.

The **ULTRAMAX MF** has a digital readout for power level reference on the DC outputs, and also a multi-color load indicator. Also featured is a forward/reverse switch for DC motor operation.

ULTRAMAX MF Set Includes:

- Power Pack
- 36 Watt Ultrasonic handpiece
- Tool box
- Handpiece rest
- Tool changing wrenches
- 1mm & 3mm flat clamp tool holders
- 3mm round tool holder
- On/off foot switch

Specifications:

Output Adjustment:

Operating Frequency: 18-26kHz
Frequency Adjustment: Automatic feedback
Stroke Amplitude: 3-40 microns
Max. Power Consumption: 300 Watts

Overload Protection: Yes

Load Indicator: 5 level LED lamps
Max. Output Power: 36W (with standard

handpiece)
45W (with optional heavy duty handpiece)
Continuously variable

Output DC Rotary Tool: 5-32VDC, Max. 180W Output DC Brushless Tool: 1,000-50,000rpm,

Max. 250W

Electrical: 90-240VAC 50/60Hz
Fuse: 3A 20mm time-lag
Dimensions: 6.75"W x 9.5"D x 5.5"H

Net Weight: 5.5 lbs.

Description	Item#	Each
ULTRAMAX MF System	500-0220	\$2,495.00
Optional Handpieces		
Description	Item#	Each
45 Watt Ultrasonic Heavy Duty Handpiece	500-0226	\$550.00
Z-6X Reciprocating Profiler (shown left)	510-2160	995.00
50,000rpm Brushless Rotary Handpiece (shown left)	500-0224	495.00
Variable Speed Foot Rheostat for Mechanical Handpieces	500-0221	60.00

See pages 10-13 for additional mechanical handpieces.

ULTRAMAX® DF (Dual-Function)

Ultrasonic/Mechanical Polisher

This dual-function unit gives you the versatility of both ultrasonic and mechanical polishing. Supplied with the lightweight, vibration-free UF-9700 ultrasonic handpiece and can use our full line of Power Hand 2X mechanical handpieces (see p.10-13). The **ULTRAMAX DF** mechanical handpiece function incorporates speed control, forward/reverse touch pads and motor stop for complete armature protection.

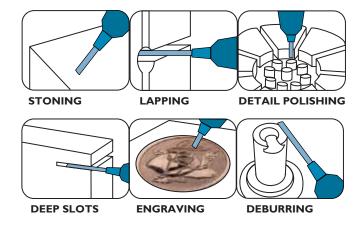
Vibration frequency: 20–30kHz. Stroke length: 4–40 microns. Max. output power: 45W. Electrical: 115V or 230V, 1 Ph, 50/60Hz. Controller measures 63/8"W x 11"D x 81/4"H. Ultrasonic handpiece measures 5"L x 13/32" D.

Description	Electrical	ltem#	Each
ULTRAMAX DF	115V	500-0210	\$5,395.00
	230V	500-0211	5,395.00

The **ULTRAMAX DF** includes: controller, UF-9700 handpiece, 6/4mm tool adapter, handpiece cradle rest and tool box with a 30-piece tool set of: four diamond files, three diamond stones, two resin-bonded diamond stones, six ceramic stones, two lapping tools, four flat clamp tool holders, round clamp tool holder, standard handpiece protector sleeve, large beveled handpiece protector sleeve, wrenches, set of earplugs and extra fuse.



See www.gesswein.com for a full range of accessories



ULTRAMAX® UM-1200

Ultrasonic Polisher

The affordable and functional ultrasonic polisher (no mechanical function) for polishing with diamond tools and ceramic stones.

Includes controller, UM-1200 handpiece with standard accessory set (two sintered and six plated diamond tools and two ceramic stones), one flat clamp tool holder, two round clamp tool holders, on/off foot switch, handpiece cradle rest, bench jig, wrench and hex key.

Vibration frequency: 18–25kHz. Stroke length: 10–35 microns. Max. output power: 36W. Electrical: 90–240V, 50/60Hz. Controller measures $7\frac{1}{2}$ W x $5\frac{1}{2}$ D x $3\frac{1}{2}$ H. Handpiece measures 5L x $1\frac{3}{16}$ D.

Description	Electrical	ltem#	Each
ULTRAMAX UM-1200	90-240V	500-1200	\$1,495.00

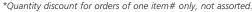




Super Ceramic Stones

- Super Ceramic Stones are strong yet incredibly flexible! Made of long ceramic fibers that will not break or dull, even when used under the most strenuous conditions. Can be dressed to any shape including a fine point, and the tool will still hold its shape. Put an end to constant stone replacement!
- Produce consistent and uniform surface finishes on stainless steel, copper, aluminum, silicon, alloys, magnetic materials and plastics. Polish EDM surfaces in half the time!
- Dress with Super Dresser #351-0300 and use with our ULTRAMAX polishing systems, reciprocators, or by hand.
- Color-coded for easy grit identification.
- Flat available in 100mm and 40mm lengths. Round available in $\frac{3}{32}$ ", $\frac{1}{8}$ ", 3mm x 50mm. See **www.gesswein.com.**
- Grits from 120 to 1200.

Emerald	Gold	Lt. Brown	Orange	Brown	Blue	White	Red		
									Prices*
								_	5+
									\$8.96
									18.81
									28.31
351-0303	351-0216	351-0221	351-0222	351-0203	351-0232	351-0233	351-0234	41.25	37.13
351-0304	351-0219	351-0235	351-0236	351-0004	351-0005	351-0010	351-0015	20.90	18.81
351-0305	351-0018	351-0237	351-0238	351-0019	351-0020	351-0025	351-0030	31.45	28.31
351-0306	351-0223	351-0239	351-0240	351-0031	351-0032	351-0033	351-0034	41.25	37.13
351-0333	351-0334	351-0335	351-0336	351-0337	351-0338	351-0339	351-0340	9.95	8.96
351-0307	351-0274	351-0275	351-0276	351-0277	351-0278	351-0279	351-0280	12.00	10.80
351-0308a	351-0224a	351-0241a	351-0242	351-0036	351-0035a	351-0040	351-0045a	20.90	18.81
351-0309	351-0048	351-0243a	351-0244a	351-0049a	351-0050a	351-0055a	351-0060	31.45	28.31
351-0310	351-0266	351-0245	351-0246	351-0079	351-0080	351-0085	351-0090	41.25	37.13
351-0097	351-0098	351-0247	351-0248	351-0091	351-0092	351-0093	351-0094	20.90	18.81
351-0311	351-0267	351-0249	351-0250	351-0109	351-0110	351-0115	351-0120	31.25	28.13
351-0312	351-0268	351-0251	351-0252	351-0124	351-0125	351-0130	351-0135	47.30	42.57
351-0313	351-0269	351-0253	351-0254	351-0136	351-0137	351-0138	351-0139	62.45	56.21
351-0314	351-0161	351-0255	351-0256	351-0154	351-0155	351-0160	351-0165	41.25	37.13
351-0315	351-0162	351-0257	351-0258	351-0169	351-0170	351-0175	351-0180	62.90	56.61
_	_	_	_	_	_	351-0190	_	45.00	40.50
351-0316	351-0163	351-0259	351-0260	351-0181	351-0182	351-0183	351-0184	82.50	74.25
351-0317b	351-0157b	351-0196b	351-0197	351-0198b	351-0200b	351-0205	351-0210b	\$20.45	\$18.41
									16.65
									23.09
				-3					
	351-0341¢		351-0342 ^c	_	351-0343¢		351-0344 ^c	\$6.15	\$5.54
_	351-0346d	_	351-0347d	_	351-0348d	_	351-0349 ^d	6.15	5.54
	120 Grit Item# 351-0325 351-0301 351-0303 351-0304 351-0305 351-0307 351-0309 351-0310 351-0311 351-0312 351-0315 — 351-0316 351-0316 351-0316 351-0318 351-0318	120 Grit Item# 180 Grit Item# 351-0325 351-0326 351-0301 351-0209 351-0302 351-0003 351-0303 351-0216 351-0304 351-0219 351-0305 351-0018 351-0306 351-0223 351-0333 351-0274 351-0307 351-0274 351-0309 351-024a 351-0310 351-0266 351-0311 351-0267 351-0312 351-0268 351-0312 351-0268 351-0314 351-0161 351-0315 351-0162 —— 351-0316 351-0163 351-0318 351-0156 351-0319 351-0158	120 Grit Item# 180 Grit Item# 300 Grit Item# 351-0325 351-0326 351-0327 351-0301 351-0209 351-0204 351-0302 351-0206 351-0207 351-0303 351-0216 351-0221 351-0304 351-0219 351-0235 351-0305 351-0018 351-0237 351-0306 351-0223 351-0239 351-0333 351-0223 351-0239 351-0307 351-0244 351-0235 351-0307 351-0244 351-0245 351-0309 351-0244 351-0243a 351-0310 351-0266 351-0245 351-0311 351-0266 351-0247 351-0312 351-0267 351-0249 351-0312 351-0268 351-0251 351-0313 351-0269 351-0253 351-0314 351-0161 351-0257 — — 351-0316 351-0163 351-0259 351-0318 351-0156 351-0261 351-0319 351-0158 351-0217 — 351-0319 351-0158 351-0217	120 Grit Item# 180 Grit Item# 300 Grit Item# 400 Grit Item# 351-0325 351-0326 351-0327 351-0328 351-0301 351-0209 351-0204 351-0206 351-0302 351-0003 351-0221 351-0208 351-0303 351-0216 351-0221 351-0222 351-0304 351-0219 351-0235 351-0236 351-0305 351-0018 351-0237 351-0238 351-0306 351-0223 351-0239 351-0240 351-0333 351-0224 351-0239 351-0240 351-0307 351-0334 351-0239 351-0240 351-0307 351-0274 351-0275 351-0276 351-0308 351-0248 351-0241 351-0242 351-0310 351-0266 351-0243 351-0244 351-0311 351-0266 351-0249 351-0250 351-0312 351-0268 351-0251 351-0252 351-0313 351-0161 351-0253 351-0254 351-0315 351-0	120 Grit Item# 180 Grit Item# 300 Grit Item# 400 Grit Item# 600 Grit Item# 351-0325 351-0326 351-0327 351-0328 351-0201 351-0301 351-0209 351-0204 351-0206 351-0201 351-0302 351-0003 351-0207 351-0208 351-0202 351-0303 351-0216 351-0221 351-0222 351-0203 351-0304 351-0219 351-0235 351-0236 351-0004 351-0305 351-0018 351-0237 351-0238 351-0019 351-0306 351-0223 351-0239 351-0240 351-0031 351-0333 351-0334 351-0239 351-0240 351-0337 351-0307 351-0244 351-0275 351-0240 351-0237 351-0308 351-0244 351-0276 351-0277 351-0306 351-0244 351-0242 351-0277 351-0309 351-0048 351-0243 351-0244 351-0049 351-0340 351-0049 351-0311 351-0266 351-0247	120 Grit Item# 180 Grit Item# 300 Grit Item# 400 Grit Item# 600 Grit Item# 800 Grit Item# 351-0325 351-0326 351-0327 351-0328 351-0329 351-0330 351-0301 351-0209 351-0204 351-0206 351-0201 351-0226 351-0302 351-0003 351-0207 351-0208 351-0202 351-0229 351-0303 351-0216 351-0221 351-0222 351-0203 351-0232 351-0304 351-0219 351-0237 351-0236 351-0004 351-0005 351-0305 351-0018 351-0237 351-0238 351-0019 351-0020 351-0306 351-0223 351-0237 351-0238 351-0031 351-0020 351-0308 351-0223 351-0237 351-0236 351-0031 351-0020 351-0333 351-0218 351-0237 351-0236 351-0337 351-0338 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Square Sets – 4 stones + holder						
c. 0.5mm	351-0351	\$27.95				
d. 0.9mm	351-0352	27.95				

a. Flat Set 10 stones + 2 holders	351-0320	\$199.00
b. Round Set 5 stones + holder	351-0322	79.00

SUPER® Pre-Cut Ceramic Stones

Pre-cut for use with ULTRAMAX Ultrasonic Polishers

FLAT



	Emerald	Gold	Lt. Brown	Orange	Brown			Blue	White	Red		
	120 Grit	180 Grit	300 Grit	400 Grit	600 Grit	Each	Prices*	800 Grit	1000 Grit	1200 Grit	Each I	Prices*
Dimensions (mr	n) Item#	Item#	ltem#	ltem#	Item#	1-4	5+	Item#	Item#	Item#	1-4	5+
0.8 x 4 x 40	508-3550	508-3438	508-3448	508-3449	508-3450	\$14.75	\$13.28	508-3451	508-3452	508-3453	\$12.50	\$11.25
0.8 x 6 x 40	508-3551	508-3439	508-3447	508-3446	508-3454	21.90	19.71	508-3455	508-3456	508-3457	18.75	16.88
1 x 4 x 40	508-3552	508-3440	508-3458	508-3459	508-3460	12.90	11.61	508-3461	508-3462	508-3463	11.25	10.13
1 x 6 x 40	508-3553	508-3441	508-3492	508-3494	508-3464	18.70	16.83	508-3465	508-3466	508-3467	16.10	14.49
2 x 6 x 40	508-3554	508-3442	508-3468	508-3469	508-3470	28.35	25.52	508-3471	508-3472	508-3473	24.65	22.19
2 x 12 x 40	508-3555	508-3443	508-3478	508-3479	508-3474	52.90	47.61	508-3475	508-3476	508-3477	45.85	41.27
ROUND												
2.35 dia. x 30	508-3556	508-3444	508-3493	508-3489	508-3480	\$19.95	\$17.96	508-3481	508-3482	508-3483	\$17.00	\$15.30
3 dia. x 30	508-3557	508-3445	508-3490	508-3491	508-3485	19.95	17.96	508-3486	508-3487	508-3488	17.00	15.30

^{*}Quantity discount for orders of one item# only, not assorted.



These tiny tools are the perfect solution for deburring or polishing the smallest, most inaccessible areas. A stone as small as 0.5mm square is available! Use in the Ultramax or by hand with our comfortable to hold stone holders. These holders will ensure that the handling is easy and the accomplished work completely accurate.

Size (mm)	Gold (180 grit) Item#	Orange (400 grit) Item#	Blue (800 grit) Item#	Red (1200 grit) Item#	Each
0.5 x 0.5 x 50	351-0341	351-0342	351-0343	351-0344	\$6.15
0.5 x 1 x 100	351-0326	351-0328	351-0330	351-0332	9.95
0.9 x 0.9 x 50	351-0346	357-0347	351-0348	351-0349	6.15
1 x 1 x 100	351-0334	357-0336	351-0338	351-0340	9.95



Mini Ceramic Stone Holders

For hand work with our Mini Ceramic Stones. Available in 3 styles to fit stone sizes:

- 0.5mm round or square stones
- 0.9mm round or square stones
- 1mm square or flat stones

All are hard durable plastic and measure approximately 5-1/2" long.

Stone Size	ltem#	Each
0.5mm	351-0345	\$12.75
0.9mm	351-0350	12.75
1mm	351-0291	7.90

Gesswein® Stoning and Lubricating Oil

This special lubricant was developed for the mold and die finisher. It is economical and practically odorless, and it evaporates slowly. Recommended for fast cutting and for finishing operations. Helps prevent loading. Lets stones cut better and more freely so they produce a bright, smooth surface. Eliminates the need for hazardous kerosene. For use with diamond tools where lubrication is suggested. Viscosity: 38/45.

Description	ltem#	Each
1 Pint (wide-mouth glass container)	800-0100	\$13.75
1 Gallon	800-0110	44.95



Gesswein® 12-Piece Finishing Stone Sampler SetsWe offer eight 12-piece stone sets of our most popular stones. Choose from Diemaker, EDM, EDM Blue, GP, Moldmaker, Moldmaker Plus, Oil-Treated and Premium White Stone Sets. Or, get our Discovery Stone Set (page 35), which includes all eight of the sets described below. Each Finishing Stone Set serves as a perfect introduction to our popular stone lines.

Each 12-piece set includes 4 grits of the 3 most popular sizes:

- 1/4" x 1/8" x 6"
- 1/2" x 1/8" x 6"
- 1/2" x 1/4" x 6"



Stone Sets: 12	Stones per Set							
	120 Grit	180 Grit	220 Grit	320 Grit	400 Grit	600 Grit	800 Grit	1200 Grit
A. Diemaker			•	•	•	•		
B. EDM	•	•		•	•			
C. EDM Blue	•	•		•	•			
D. Oil-Treated			•	•	•	•		
E. Moldmaker			•	•	•	•		
F. Moldmaker	Plus		•		•		•	•
G. GP			•	•	•	•		
H. Premium W	hite		•	•	•	•		



ltem#	EACH
405-2060	\$37.00
405-2030	35.00
405-2040	35.00
405-2090	41.00
405-2065	39.00
405-2020	49.00
405-2095	33.00
405-2010	37.00
	405-2060 405-2030 405-2040 405-2090 405-2065 405-2020 405-2095



Hybrid Stones - 1/4" x 1/4" x 6"Our new Hybrid shape (half-round and half-square) combines all the advantages of round and flat stones without the higher costs normally associated with round stones.

Set contains 20 Hybrid stones, one each of the following styles in grits 220, 320, 400, 600.

- Diemaker, Medium Hard Aluminum Oxide
- EDM, Hard Premium Aluminum Oxide
- Oil-Treated, Hard, White Aluminum Oxide
- Moldmaker, Soft, Silicon Carbide
- **GP**, White Aluminum Oxide

Description	Item#	Each
Set of 20	405-2086	\$51.00

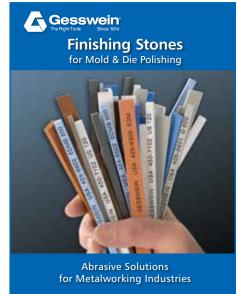


				Eacl	h Prices
Diemaker	Style	Grit	Item#	1-11	12-71
	2123H	150	405-2123	3.74	3.12
	2223H	220	405-2223	3.74	3.12
	2323H	320	405-2323	4.16	3.47
	2423H	400	405-2423	4.16	3.47
	2623H	600	405-2623	4.76	3.97
	2823H	800	405-2823	4.76	3.97
	2923H	900	405-2923	5.70	4.75
	4023H	1200	405-4023	6.28	5.23

				Ea	ch Prices
EDM	Style	Grit	Item#	1-11	12-71
	123H	120	425-0123	\$3.98	\$3.32
3,000	183H	180	425-0183	3.98	3.32
	223H	220	425-0223	3.98	3.32
	323H	320	425-0323	4.24	3.53
	423H	400	425-0423	4.24	3.53
	623H	600	425-0623	5.12	4.27

				Each	n Prices
OT	Style	Grit	ltem#	1-11	12-71
	5123H	120	435-5123	\$4.28	\$3.57
	5023H	180	435-5023	4.28	3.57
	5223H	220	435-5223	4.28	3.57
	5323H	320	435-5323	4.46	3.72
	5423H	400	435-5423	4.46	3.72
	5623H	600	435-5623	5.56	4.63
	5823H	800	435-5823	5.84	4.87
	5923H	1200	435-5923	6.40	5.33





Ask for Our New Finishing Stones Brochure! Order #890-2463

				Each	Prices
Moldmaker	Style	Grit	Item#	1-11	12-71
	023H	100	410-0023	\$3.64	\$3.03
	123H	150	410-0123	3.64	3.03
	223H	220	410-0223	3.64	3.03
	323H	320	410-0323	4.30	3.58
	423H	400	410-0423	4.30	3.58
	623H	600	410-0623	5.30	4.42

				Eac	h Prices
GP	Style	Grit	ltem#	1-11	12-71
	1523H	150	406-1523	\$4.28	\$3.57
	1823H	180	406-1823	4.28	3.57
	1223H	220	406-1223	4.28	3.57
	1323H	320	406-1323	4.46	3.72
	1423H	400	406-1423	4.46	3.72
	1623H	600	406-1623	5.56	4.63



Maxima 80 Micromotor System

Adjustable torque with up to 40,000rpm!

The Maxima 80 system features adjustable torque with much more power than conventional models. Handles a wide variety of applications such as deburring, grinding, polishing, engraving, finishing and more. Provides 30% more power due to improved controller circuitry and powerful neodymium handpiece magnet.

- Torque adjustment screw
- Speed adjustment dial
- Forward/reverse switch
- · Overload protection

System Includes:

- Controller Simple and compact
- Choice of high-torque PHP35 handpiece or high-speed PHP40 handpiece with cooling system in 3/32", 1/8" or 3mm collet options (Collets are interchangeable for maximum tool compatibility). Coiled handpiece cord is very flexible
- Variable-speed foot rheostat
- Replacement set of carbon brushes

Specifications:

Controller

Electrical: 120V, 1 Ph, 50/60Hz Dimensions: 3.4"W x 5.9"D x 6.2"H

Net Wt.: 5.5 lbs.

Handpiece PHP35 PHP40 Speed Range: 0-35,000rpm 0-40,000rpm Max. Torque: 6.5 N-cm 6.0 N-cm 1" dia. x 5.9"L 1" dia. x 5.5"L Dimensions:

Net Wt.: 7 oz.

6 oz.

Description	Max. RPM	Collet	Item#	Each
Maxima 80 w/ PHP35	35,000	1/8"	510-5110	\$725.00
		³ / ₃₂ "	510-5115	725.00
		3mm	510-5120	725.00
Maxima 80 w/ PHP40	40,000	1/8"	510-5125	725.00
		³ / ₃₂ "	510-5130	725.00
		3mm	510-5135	725.00



Slim & light-weight

handpiece

Mini Mobile Micromotor System

The truly portable, rechargeable system with 33,000rpm!

If you need a system for light jobs on the go, look no further than the Mini Mobile, our only battery-operated micromotor system. Also has a plug-in adaptor which allows you to operate unit and charge batteries at the same time.

Rechargeable NiMH battery pack for true portability!

- Rechargeable NiMH battery -Up to 140 mins. of continuous operation
- · Speed adjustment dial
- Overload protection
- Ergonomic design

System Includes:

- Compact controller
- High-speed handpiece with 3/32" collet, on/off foot switch
- Handpiece cradle
- AC adapter
- Attractive aluminum carrying case with fitted foam insert

Specifications:

Controller

140 minutes Working Time: Charging Time: 3 hours

Electrical: 100-240V, 50/60Hz Dimensions: 2.9"W x 6.7"D x 1.3"H

Net Wt.: 9.5 oz.

Handpiece

Speed Range: 0-33,000rpm Dimensions: 1" dia. x 5.6"L

Net Wt.: 5.2 oz.

Carrying Case

13.8"W x 11.3"D x 3.8"H Dimensions:

Description	Max. RPM	Collet	ltem#	Each
Mini Mobile System	33,000	1/8"	510-2900	\$375.00
		3/32"	510-2905	375.00

Marathon Handy 700 Micromotor System

The Handy 700 system features an advanced dual control system and a 50,000rpm, 230W brushless rotary handpiece for incredible power even at low speeds!

Provides ample torque at all times to ensure fast and smooth removal. Ideal for a variety of applications including; grinding, deburring, polishing and more. Use with Power Hand 2X handpieces for rotary finishing tasks that require normal torque.

Features:

- Low vibration, low noise
- Brushless, sealed handpiece that eliminates hassle of replacing carbon brushes
- Dial or foot rheostat speed control
- · Easy-to-read digital speed display for precise speed and torque settings
- Forward/reverse rotation
- Overload protection

Specifications:

Controller

100-120V, 40W, 50/60Hz Electrical: Dimensions: 53/8"W x 91/16"D x 71/16"H

Net Wt.: 6 lbs.

Handpiece

Net Wt.:

Speed Range: 1,000-50,000rpm

Max. Power: 230W Max. Torque: 7.8 N-cm

510-2925

Dimensions: $6^{5/16}$ "L x $^{3/4}$ " dia. at finger grips

\$695.00

8.4 oz.

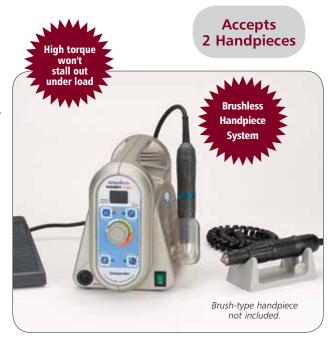
System Includes:

with foot rheostat

- Handy 700 controller with integral carrying handle and BH-60 handpiece with guick-tool-change mechanism
- 1/8" collet, 3/32" available
- Variable-speed foot rheostat
- Detachable handpiece holder



1/8"



Will accept our full range of Power Hand 2X Mechanical Handpieces. See pages 10-13.

Marathon Micromotor System

50,000

The affordable 35,000rpm system.

The affordable turnkey system, Marathon includes everything you need to start working right out of the box: compact controller, lightweight 35,000rpm rotary handpiece with flexible curl cord, handpiece cradle rest, variable-speed foot rheostat, and safety glasses. Available with 1/8" or 3/32" collet.

Features:

- Voltage selector switch for 110/220V operation, dial speed control
- Forward/reverse handpiece switch
- Well-balanced ergonomic design that fits well in your hand
- Quick-tool-change mechanism
- · Flexible curl cord

Specifications:

Controller

Electrical: 110/220V, 50/60Hz

Output voltage: 0-30V DC (continuously variable)

 $4^{1/2}$ "W x $5^{3/4}$ "D x $3^{3/4}$ "H Dimensions:

Net Wt.: 2.6 lbs.

Handpiece

Speed Range:

Dimensions:

Net Wt ·





 Description	Max. RPM	Collet	ltem#	Each	Sale
Marathon System	35,000	1/8"	510-2945	\$339.00	\$288.15
		3 _{/32} "	510-2955	339.00	288.15



POWER/HAND[®]2X Handpieces



Dual Controller - Two User Model

Dual Controller has 2 handpiece output stations with separate speed controls so 2 people can operate separate handpieces at the same time. Optional foot rheostat for each output station can be added. Convenient handpiece rest on top of controller. Made in Japan.

- Available in 115V or 230C AC, 50/60Hz
- Output Voltage: 0 30V DC
- 8¹/₄"W x 8"D x 7"H
- Weight: 9 lbs.

Description	Item#	Each
Dual Controller, 115V	510-2100	\$499.00
Dual Controller, 230V	510-2110	499.00
Optional Variable Foot Rheostat	510-2995	118.00



See p.43 for DiProfile



Standard Controller - Single User Model

Standard Controller is designed for one-person use. Has 2 output stations with switch to instantly change power from one handpiece to the other. Speed can be adjusted by slide rheostat or optional foot rheostat. Convenient forward/reverse switch on panel and handpiece holder on side. 3³/8"W x 5³/4"H. Made in Japan.

- Available in 115V or 230C AC, 50/60Hz
- Output Voltage: 3-30V DC
- $3^{3}/8$ "W x $7^{3}/4$ "D x $5^{3}/4$ "H
- Weight: 5¹/₂ lbs.

Description		Item#	Each
Α.	Standard Controller, 115V	510-3000	\$399.00
	Standard Controller, 230V	510-3010	399.00
В.	Replacement HP Holder	510-3130	9.95
Or	ntional Variable Foot Rheostat	510-2995	118.00

Both controllers feature a thermal sensor to prevent overheating, overload protection and circuitry to provide high torque to handpiece while maintaining constant speed.

Two-Piece Rotary Handpieces



These handpieces can accept a wide range of head attachments (see pages 12-13) making them the most versatile handpieces. All have a quick tool change feature, powerful 30V DC air-cooled motors and are supplied with ³/32" and ¹/8" collets. Select between the following rpm units: 8,000 for maximum torque, 15,000 for most tough jobs requiring high torque and 30,000 for general purpose jobs.

Z-08X Highest-Torque Rotary Handpiece - 8,000rpm

Description	Item#	Each
Z-08X	510-2257	\$595.00

Z-15X High-Torque Rotary Handpiece – 15,000rpm

Description	ltem#	Each
Z-15X	510-2270	\$599.00

Z-30X General-Purpose Rotary Handpiece - 30,000rpm

Description Item# Each	Z-30X	510-2280	\$645.00
	Description	ltem#	Each

Slimline Rotary Handpieces



Featuring one-piece construction, these handpieces have powerful 30V DC air-cooled motors, a quick tool change feature and are supplied with $^{3}/_{32}$ " and $^{1}/_{8}$ " collets. 3mm collets available separately. Select the Z-20XS for continuous production use at 20,000rpm, the Z-35X for grinding and polishing at 35,000rpm and the High Speed Z-55X for precise deburring at 55,000rpm speeds.

Z-20XS Slimline Rotary Handpiece - 20,000rpm

Description	ltem#	Each
Z-20XS	510-2277	\$525.00

Z-35XS Slimline Rotary Handpiece – 35,000rpm

Description	Item#	Each
Z-35XS	510-2287	\$645.00

Z-55X High-Speed Rotary Handpiece – 55,000rpm

Z-55X	510-2290	\$625.00
Description	ltem#	Each

POWER/HAND®2X Handpieces

Reciprocating Profilers

Both Z-2X and Z-6X provide standard back-and-forth reciprocating action with choice of speeds and stroke lengths. They hold 1.5 to 6.35mm (1/4") diameter tools as well as 4mm or 6mm threaded ULTRAMAX Ultrasonic tools with appropriate adapters and clamp tool holders (see **www.gesswein.com**). Secured tools can float freely and be fixed at any position through 360°. Comfortable grip allows prolonged use.

Description	Stroke	ltem#	Each
Z-2X	0-2mm	510-2150	\$995.00
Z-6X	0-6mm	510-2160	995.00



BZX Belt Sander

Use for deburring flat and curved surfaces and for edge breaking. Comfortable to hold with minimal vibration. Belt speed is 39 feet/sec max. Supplied with straight and 45° angle belt arms that are spring loaded for rapid 6mm and 8mm wide belt changes.

Description	Item#	Each
BZX Belt Sander	510-2130	\$945.00
Optional 4mm Straight Arm	510-0494	119.00



Sanding Belts for BZX

Aluminum oxide abrasive belts specially made for use with our Power Hand 2X BZX Belt Sander. 6mm and 8mm belts fit on either straight or 45° -angle arms provided with BZX. Use 4mm with optional 4mm straight arm.

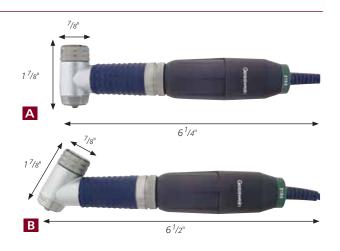
Size	80 Grit Item#	120 Grit Item#	180 Grit Item#	320 Grit Item#	Pkg. of 10
4mm	510-0500	510-0505	510-0510	510-0515	\$20.50
6mm	510-0520	510-0525	510-0527	510-0530	20.50
8mm	510-0535	510-0540	510-0545	510-0550	20.50



Angle Rotary Handpieces - 15,000rpm

Each model features two-piece construction and a high-torque Z-M15X motor to drive sandpaper, felt pads, mounted stones and brushes. Supplied with 3mm and $^{1}/_{8}$ " collets, collet wrenches, replacement motor brushes and tool accessory starter kit. Optional $^{3}/_{32}$ " collets available.

Description	ltem#	Each
A. RZ-15X (90°)	510-2120	\$685.00
B. CZ-15X (120°)	510-2225	745.00



Micromotor Drive Diprofilers

Gesswein is proud to offer our newest Diprofiler systems. The Professional and Classic MM Drive Diprofilers are built with a micromotor inside every handpiece and can connect directly to any Gesswein PowerHand control box. Eliminates the need for noisy flexible shaft motors and greasy hanging cables. Available in Professional and Classic models.





Professional Micromotor Drive Diprofiler

Maximum Efficiency – Minimal Vibrations

Simply the best reciprocating handpiece in the market today, the Professional Diprofiler combines ergonomic design and heavy duty power. A counter balance weight system located on the opposite end of the tool holder reduces vibration levels. As the tool reciprocates, the counter balance weight reciprocates in the opposite direction thereby stabilizing the handpiece. As a result, vibration in the user's hand is greatly reduced.

Available in two models: 1/4" chuck capacity or 1/8" chuck capacity. Comes complete with operations guide, rubber sleeve, storage case, wrench and lubricating oil. Adjustable stroke length 0-6mm. 8,000 RPM Maximum.

Description	ltem#	Each
Professional MM Diprofiler 1/4" chuck capacity	850-1913	\$2,795.00
Complete Kit (Includes Professional Diprofiler 1/4" chuck capacity, Marathon controller and		
variable speed foot rheostat)	850-1944	2,945.00
Professional MM Diprofiler 1/8" chuck capacity	850-1912	2,645.00
Complete Kit (Includes Professional Diprofiler 1/8" chuck capacity, Marathon controller and		
variable speed foot rheostat)	850-1943	2,795.00



Classic Micromotor Drive Diprofiler

Choose between $^{1}/_{4}$ " chuck capacity or $^{1}/_{8}$ " chuck capacity. Comes complete with operations guide, rubber sleeve, storage case, wrench and lubricating oil. Adjustable stroke length 0-6mm. 8,000 RPM maximum.

Description	Item#	Each
MM Diprofiler 1/4" chuck capacity	850-1915	\$2,095.00
MM Complete Kit (Includes MM Diprofiler 1/4" chuck		2 245 00
capacity, Marathon controller and variable speed rheostat)	850-1946	2,245.00
MM Diprofiler ¹ /8" chuck capacity	850-1914	1,995.00
MM Complete Kit (Includes MM Diprofiler 1/8" chuck		
capacity, Marathon controller and variable speed rheostat)	850-1945	2,145.00

^{*}Operation Guide is included with profiler for safety and operating instructions. For information on hand transmitted vibration see ANSI Standard S2.70 2006 (R2011).

Classic Flex Shaft Drive Diprofilers

The flex shaft driven Diprofiler is the tool maker's traditional go-to machine for reciprocating applications. Connects to any standard Gesswein/Foredom flexible shaft machine except models TXH, TXMH, and H. Can be used for light and heavy duty polishing, filing, honing and lapping jobs. For best results and reduced vibration, operate between 5,000 and 7,000 RPM with a stroke length between 1-3mm.

Available in two models: 1 /4" chuck capacity (FPS) or 1 /8" chuck capacity (FPC). Comes complete with operations guide, rubber sleeve, storage case, wrench and lubricating oil. Adjustable stroke length 0-6mm. 8,000 RPM Maximum.

Description	ltem#	Each
FPS Diprofiler 1/4" chuck capacity	850-1919	\$1,495.00
FPS Complete Kit (Includes Diprofiler 1/4" chuck capacity, model TX flex shaft motor, and TXR foot rheostat) 850-1939		1,695.00
FPC Diprofiler 1/8" chuck capacity	850-1827	1,425.00
FPC Complete Kit (Includes Diprofiler 1/8" chuck capa model TX flex shaft motor, and TXR foot rheostat)		1,625.00



NEWI

Protective Finger Sleeve

The finger sleeve will improve guidance of the tool as there is no longer any need for putting your finger on moving tools or machine parts. Simply attach the finger sleeve to the Diprofiler (instructions included). Now the user can place their fingers over the steady finger sleeve while the tool is reciprocating underneath. Comes with 21/8" extension pipe for longer tools. Compatible with all Diprofilers.

Description	ltem#	Each
Finger Sleeve Package for Diprofiler 1/4"	850-1917	\$240.00
Finger Sleeve Package for Diprofiler 1/8"	850-1916	223.00





Tool Holders - For all Diprofiler models

Description	ltem#	Each
A. Universal Tool Holder (holds up to 6mm thick and 8mm wide) – 3mm shank	403-1050	\$45.00
B. Ceramic Stone Holder (holds up to 1mm thick and up to 8mm wide) – 3mm shank	403-1045	29.00
C. Economy Adjustable Stone Holder (holds up to 9/16" thick) – 3mm shank	403-1015	39.95



DYNABRADE® - Made in USA New





Filter/Regulator/ Lubricator

Manual push-button drain easily discharges contaminants. Built-in PSI pressure dial gauge. Adjustable oil drop to meter amount of oil into air system. Each unit includes two bushings for easy conversion to $^{3}/8^{"}$ NPT. Five-micron filter element is standard. $^{1}/2^{"}$ NPT.

Model	ltem#	Each
¹ / ₂ " NPT Filter Regulator/Lubricator	850-6152	\$170.00



Filter/Regulator

Manual push-button drain easily discharges contaminants. Built-in PSI pressure dial gauge. Each unit includes two bushings for easy conversion to ³/₈" NPT. Five-micron filter element is standard. ¹/₂" NPT.

Model	ltem#	Each
1/2" NPT Filter/Regulator	850-6153	\$143.00



Miniature Filter/Regulator/Lubricator

General purpose filter for air handpieces removes solid and liquid particles to 5 microns. Micro-Fog Lubricator has 1 oz. reservoir and provides oil mist to lubricate moving parts of air handpieces. 1/8" ports.

Model	Item#	Each
1/8" NPT Mini Filter/Regulator/Lubricator	850-7349	\$159.00



Air Hose

Air line is 66% lighter than conventional PVC and rubber hoses. High flexibility and narrow bending radius of hose prevents choking. Use to connect filter/regular/lubricator to a Dynablade tool for optimum results. Offers great flexibility, improves tool maneuverability and reduces operator fatigue. 12.7 mm outside diameter; 8 mm inside diameter.

Model	ltem#	Each
Air Hose, 5ft.	850-6158	\$28.00
Air Hose, 12ft.	850-6159	40.00



Reinforced Air Hose with Fittings

This 8' long $^{1}/_{4}"$ I.D. rubber hose comes with $^{1}/_{8}"$ NPT coupler and $^{1}/_{4}"$ NPT coupler. Withstands air pressures up to 250 PSI.

Model	ltem#	Each
Reinforced Air Hose	850-7323	\$27.85



Dynaswivel®

The Dynaswivel[®] is a "universal-joint" that connects portable air tools to an air line. Swivels 360° at two pivot points allowing the air hose to drop directly to the floor while providing superb tool handling. It improves tool maneuverability, minimizes operator fatigue and extends hose life. Never fight an air hose again! $^{1}/_{4}$ " NPT.

Model	ltem#	Each
Dynaswivel®	850-6155	\$15.10
Dynaswivel® with Air-Flow Control	850-6156	21.35

Variable Speed Pencil Grinder – 25,000rpm

This 0.4HP pencil grinder has an adjustable tool speed from 5,000rpm to 25,000rpm. Simply rotate the rear black cover to adjust speed. Unique housing shape allows tool to be held as a traditional die grinder, or the operator can use the tactile grip on shaft end for fingertip control.

 $^{1/8}$ " Collet, Rear Exhaust. Air Inlet thread $^{1/4}$ " NPT, Hose I.D. $^{1/4}$ " (6mm). Max air flow @ 90 PSIG (6.2 Bar): 20 SCFM.

Model	Max. RPM	ltem#	Each
Variable Speed Pencil Grinder	25,000rpm	850-6100	\$395.00



Extension Pencil Grinder - 35,000rpm

Reach into tighter areas for precision deburring and grinding! Collet has a 1-1/8" extension, giving the user access to slots, holes and ribs. Housing features "non slip" rubber grip for additional control.

0.1HP, Turbine Air Motor, Rear Exhaust, $^{1}/8$ " collet. Air Inlet thread $^{1}/4$ " NPT, Hose I.D. $^{1}/4$ " (6mm). Max air flow @ 90 PSIG (6.2 Bar): 8 SCFM.

Model	Max. RPM	Item#	Each
Extension Pencil Grinder	35,000rpm	850-6105	\$405.00



Quick Change Pencil Grinder - 60,000rpm

Dynabrade's Wrenchless Pencil Grinder combines precision deburring, engraving and finishing with an exciting new feature: a convenient lever for changing your accessory in seconds! A true time-saver for high production workplaces. Turn lever outward 90 degrees to open collet and easily replace accessory. Built-in Rapid Stop Break stops tool motor within 1 second.

0.1HP, Turbine Air Motor, Rear Exhaust, 1/8" Collet. Hose I.D. 1/4" (6mm). Max air flow @ 90 PSIG (6.2 Bar): 8 SCFM.

Model	Max. RPM	ltem#	Each
Quick Change Pencil Grinder	60,000rpm	850-6110	\$710.00



Mini Dynafile® II Set - 25,000rpm

Air-powered 0.4HP, 7° Offset abrasive belt tool replaces tedious hand filing and sanding. Grind, debur, blend, polish, finish and more! Includes Contact Arm for ½" wide x 12" long abrasive belts. Multi-position head pivots 360°. Kit includes Drive Wheel, 3 Contact Arms, threaded collet insert to convert tool to ½" Die Grinder, assorted Coated and Non-Woven Nylon Belts, Durable Carrying Case. Air Inlet thread ½" NPT, Hose I.D. ½" (6mm). Max air flow @ 90 PSIG (6.2 Bar): 20 SCFM.

Model	Max. RPM	ltem#	Each	
Mini Dynafile® II Set	25,000rpm	850-6120	\$615.00	





DynaPen Set - 14,000 strokes/min.

Reciprocating tool for engraving and precision deburring. Accepts scribe points, files, and chisels for countless applications. Rapid reciprocating action with .007" stroke length. Set includes Dynapen with 1/8" collet, Swiss Pattern files: Equalling, Curved, Half-Round, High Carbon Steel Scribe Point, 1/8" and 1/4" wide Chisels and Wrench. Max air flow @ 90 PSIG (6.2 Bar): 7 SCFM.

Model	Max. Strokes/Min.	Item#	Each
Dynapen Set	14,000	850-6115	\$405.00





Suhner® Swiss Grinders

80,000rpm, right-angle and straight rotary handpieces

Specially designed for mold, tool, and die makers, these grinders achieve maximum power with minimum air consumption. Rigid rotary-vane motors provide exceptional performance and speeds up to 80,000rpm. Excellent for carbide and CBN tools. Use for milling, grinding, engraving and polishing. Choose from slim right-angle or straight grinder with rear speed controls. Both supplied with $^1/_8$ " collet ($^3/_{32}$ " collet available separately) and wrench. Each requires $^1/_8$ " NPT coupler and $^1/_4$ " ID hose (see #850-7323 on p.15). Use with Filter/Regulator-Lubricator. Right-angle handpiece measures $6^3/_4$ "L x $^3/_4$ " dia. Weighs 7 oz. Straight handpiece measures 6^* L x $^3/_4$ dia. Weighs 4.2 oz.

Model	Max. RPM	PSI	CFM	Item#	Each
A. Right-Angle	80,000	90	6.6	850-7320	\$734.00
B. Straight	80,000	90	6.6	850-7300	712.00



High-Speed Rotary Air Grinder HS80 - 80,000rpm

High-speed, quiet-running, well-balanced rotary handpiece for deburring and finishing. Ideal for precision grinding. Includes $^{1}/_{8}$ " collet (optional $^{3}/_{32}$ " and 3.0mm collets also available). Supplied with air hose, coupler and tool changing wrenches. Requires Filter/Regulator/Lubricator. Measures $5^{5}/_{8}$ "L x $^{13}/_{16}$ " dia. Weighs 5.7 oz.

Max. RPM	PSI	CFM	Item#	Each
80,000	90	0.30	850-2235	\$174.00



NSK Impulse Pencil Air Grinder - 60,000rpm

Features a special vane design that maintains speed even under load, providing smooth and stable grinding action. Design allows sensitive control of cutting tool. Exhaust hose with silencer keeps noise to a minimum. Rotating joint prevents hose from twisting. Supplied with $^{1}/_{8}$ " collet and chuck key; $^{3}/_{32}$ " and 3mm collets available separately. Use with Filter/Regulator-Lubricator. Measures $6^{3}/_{4}$ "L x 1" dia. Weighs 5.9 oz.

Max. RPM	PSI	CFM	Item#	Each
60,000	56-85	5.83	850-7230	\$340.00



High-Torque Precision Air Grinder HT60

High-torque, quiet-running, well-balanced rotary handpiece for deburring and finishing work. Includes fixed $^{1}/8$ " collet (also available with fixed $^{3}/32$ " or 3.0mm collet). Supplied with air hose, coupler and tool changing wrenches. Requires Filter/ Regulator/Lubricator (see **www.gesswein.com**). Measures $5^{5}/8$ "L x $^{11}/_{16}$ " dia. Weighs 6.4 oz.

Max. RPM	PSI	CFM	Item#	Each
60,000	90	0.28	850-2230	\$149.00



Turbo Air Lappers

Low-vibration, quiet-running, durable reciprocating handpieces. Excellent for general-purpose finishing and polishing of mold and die surfaces. Perfect for polishing ribs, slots and other tight areas. Produces great results with Diamond Poli Files (see **www.gesswein.com**) and Super Ceramic Stones (see p.6). Supplied with air hose, coupler, foam sleeve and three tool holders for 1mm to $\frac{1}{8}$ " flat tools and 3mm round tools. Requires Filter/Regulator/Lubricator. Measures 8"L x $\frac{11}{8}$ " dia.

Strokes/ Minute	Stroke Length	PSI	CFM	ltem#	Each
40,000	0.3mm	90	1.76	850-2250	\$318.00
35,000	0.7mm	90	1.76	850-2245	318.00
25,000	1.2mm	90	1.76	850-2251	318.00

UHT (Ushio) Air Grinders

Up to 65,000rpm pencil and surface air grinders/polishers

Quiet running handpieces ideal for many applications, including precision grinding, finishing, and polishing. Feature self-lubricating vanes for dependable performance. Offer rear speed control and rear exhaust. Supplied with 5' of $^{3}/_{16}$ " air hose and $^{1}/_{4}$ " NPT coupler. Airline filter/oiler kit required (#850-7349 see p. 15). Made in Japan.

UHT (Ushio) Pencil Grinders

Both offer a unique $^{1}/_{8}"$ fixed collet design providing extra-long bearing life and reduced heat build-up. Contra-Angle 120° model allows access to hard-to-reach, deep areas.

Model	Max. RPM	PSI	CFM	Weight	Item#	Each
A. Straight	65,000	85	4.2	4.5 oz.	850-0900	\$299.00
B. Contra-Angle	53,000	85	4.2	5.0 oz.	850-0905	335.00



UHT (Ushio) Surface Micro Angle Air New! Grinder/Polishers

Both offer 7mm threaded shaft for delivering maximum torque to 30mm diameter grinding, sanding, and buffing tools (see selection below). 90° and 120° heads are available to optimize ergonomics.

Model	Max. RPM	PSI	CFM	Weight	Item#	Each
C. 90° Angle	23,500	85	4.2	10.2 oz.	850-0890	\$335.00
D. 120° Angle	23,500	85	4.2	10.2 oz.	850-0895	335.00



Grinding Wheels & Abrasive Discs

Description	Dia.	Grit	Item#	Box of 48
Cup Wheels	30mm	60	850-2242	\$42.00
		100	850-2243	42.00
		150	850-2244	42.00
Description	Dia.	Grit	Item#	Box of 150
PSA Discs	30mm	60	850-2229	\$27.50
		100	850-2231	27.50
		150	850-2232	27.50
		240	850-2233	27.50
		320	850-2234	27.50
		400	850-2239	27.50
Description	Dia.		Item#	Each
PSA Disc Holder	30mm		850-2241	\$3.50





UHT (Ushio) TurboLap Air Filer New!

Reciprocating Handpieces

TurboLap delivers high-speed reciprocation with high torque and a short stroke. Ideal for filing, lapping and polishing molds or honing precision parts. Makes quick work of polishing ribs, slots and intricate areas. Runs quiet and is designed to be operated for long periods without getting hot. Provides optimum results with Diamond Poli Files (see our website) and Super Ceramic Stones (see p. 6). Lightweight with good balance and ergonomic soft-grip design.

Supplied with hexagonal wrench, one Diamond Poli File, 1.5m air hose, over hose, hose bands and quick joint with filter. Accepts up to 1mm flat or 3mm round tools. Requires $^{1}/_{4}$ " NPT air connection. Use with Filter/Regulator/Lubricator (see p. 15). Measures 7"L x 1" dia. Weighs 5.9 oz.

Strokes/	Stroke	DCI	CENA	l+ //	Fl-
Minute	Length	PSI	CFM	ltem#	Each
A. 52,000	0.3mm	90	1.65	850-0928	\$435.00
B. 28,000	0.7mm	90	1.65	850-0930	435.00
C. 19,000	1.2mm	90	1.65	850-0932	435.00







MOUNTED STONES



Available in plastic packages of 12 and boxes of 12, 36 or 72.

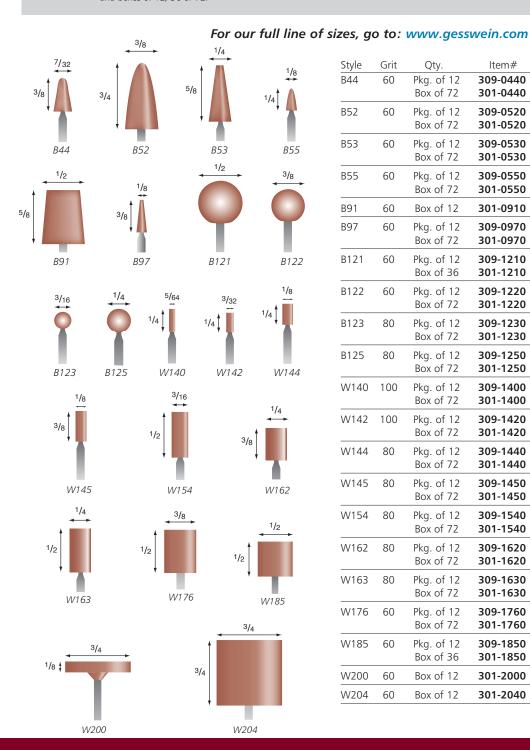
Red Mounted Stones

These fast-cutting, nonloading stones are easily identified by their reddish color. Made of Aluminum oxide bonded with porcelain-type clays. The ceramic bond controls the release of the aluminum oxide abrasive grains. As each particle begins to dull, the bond discharges it, exposing new abrasive grain to the surface with sharp cutting edges. The grit varies between 60, 80, (medium) and 100 (fine). For fast grinding of medium and hard metals. Ideal for internal grinding of tools, dies and gauges.

Can be dressed with our Tru-Stone (#380-1030).

Mounted on 1/8" shanks which are $1^{1}/2$ " long and made of nickel-plated steel. Made in USA.

Pka /Box Prices



					Pkg./Box	(Prices	
Style	Grit	Qty.	ltem#	1	2-3	4-9	10+
B44	60	Pkg. of 12	309-0440	\$16.00	\$14.40	\$13.60	\$12.00
		Box of 72	301-0440	76.00	68.40	64.60	57.00
B52	60	Pkg. of 12	309-0520	17.00	15.30	14.45	12.75
		Box of 72	301-0520	83.00	74.70	70.55	62.25
B53	60	Pkg. of 12	309-0530	17.00	15.30	14.45	12.75
		Box of 72	301-0530	83.00	74.70	70.55	62.25
B55	60	Pkg. of 12	309-0550	14.00	12.60	11.90	10.50
		Box of 72	301-0550	65.00	58.50	55.25	48.75
B91	60	Box of 12	301-0910	17.00	15.30	14.45	12.75
B97	60	Pkg. of 12	309-0970	16.00	14.40	13.60	12.00
		Box of 72	301-0970	76.00	68.40	64.60	57.00
B121	60	Pkg. of 12	309-1210	16.00	14.40	13.60	12.00
		Box of 36	301-1210	38.00	34.20	32.30	28.50
B122	60	Pkg. of 12	309-1220	16.00	14.40	13.60	12.00
		Box of 72	301-1220	76.00	68.40	64.60	57.00
B123	80	Pkg. of 12	309-1230	14.00	12.60	11.90	10.50
		Box of 72	301-1230	65.00	58.50	55.25	48.75
B125	80	Pkg. of 12	309-1250	16.00	14.40	13.60	12.00
		Box of 72	301-1250	78.00	70.20	66.30	58.50
W140	100	Pkg. of 12	309-1400	13.00	11.70	11.05	9.75
		Box of 72	301-1400	60.00	54.00	51.00	45.00
W142	100	Pkg. of 12	309-1420	13.00	11.70	11.05	9.75
		Box of 72	301-1420	60.00	54.00	51.00	45.00
W144	80	Pkg. of 12	309-1440	12.00	10.80	10.20	9.00
		Box of 72	301-1440	55.00	49.50	46.75	41.25
W145	80	Pkg. of 12	309-1450	13.00	11.70	11.05	9.75
		Box of 72	301-1450	60.00	54.00	51.00	45.00
W154	80	Pkg. of 12	309-1540	13.00	11.70	11.05	9.75
		Box of 72	301-1540	60.00	54.00	51.00	45.00
W162	80	Pkg. of 12	309-1620	13.00	11.70	11.05	9.75
		Box of 72	301-1620	60.00	54.00	51.00	45.00
W163	80	Pkg. of 12	309-1630	13.00	11.70	11.05	9.75
		Box of 72	301-1630	60.00	54.00	51.00	45.00
W176	60	Pkg. of 12	309-1760	13.00	11.70	11.05	9.75
		Box of 72	301-1760	60.00	54.00	51.00	45.00
W185	60	Pkg. of 12	309-1850	13.00	11.70	11.05	9.75
		Box of 36	301-1850	30.00	27.00	25.50	22.50
W200	60	Box of 12	301-2000	11.00	9.90	9.35	8.25
W204	60	Box of 12	301-2040	15.00	13.50	12.75	11.25

Blue Mounted Stones

These superior quality stones are made of Aluminum Oxide bonded with porcelain type clays which provide the greatest strength and rigidity required for fast stock removal and longer life. The ceramic bond controls the release of the Aluminum Oxide abrasive grains so that as each particle begins to dull, the bond discharges it allowing new abrasive grain to surface with fresh, sharp cutting edges. Guaranteed to run true.

Our Mounted Stones are hard stones which hold their shape exceptionally well and are recommended for use on hardened steel. All are 120 grit (fine). Aluminum Oxide with Cobalt added to provide lubrication while grinding.

Can be dressed with our Tru-Stone (#380-1030).

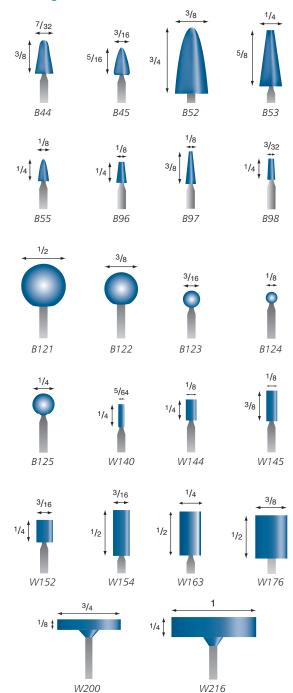
Mounted on 1/8" shanks which are 11/2" long and made of nickel-plated steel. Made in USA.



Available in plastic packages of 12 and boxes of 12, 36 or 72.

For our full line of sizes, go to: www.gesswein.com

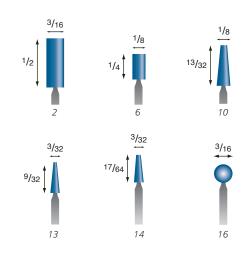
				101	Pkg./Box		312C3, g
Style	Grit	Qty.	Item#	1	2-3	4-9	10+
B44	120	Pkg. of 12 Box of 72	304-0440 300-0440	\$16.00 76.00	\$14.40 68.40	\$13.60 64.60	\$12.00 57.00
B45	120	Pkg. of 12 Box of 72	304-0450 300-0450	16.00 76.00	14.40 68.40	13.60 64.60	12.00 57.00
B52	120	Pkg. of 12 Box of 72	304-0520 300-0520	17.00 83.00	15.30 74.70	14.45 70.55	12.75 62.25
B53	120	Pkg. of 12 Box of 72	304-0530 300-0530	17.00 83.00	15.30 74.70	14.45 70.55	12.75 62.25
B55	120	Pkg. of 12 Box of 72	304-0550 300-0550	14.00 65.00	12.60 58.50	11.90 55.25	10.50 48.75
B96	120	Pkg. of 12 Box of 72	304-0960 300-0960	14.00 65.00	12.60 58.50	11.90 55.25	10.50 48.75
B97	120	Pkg. of 12 Box of 72	304-0970 300-0970	16.00 76.00	14.40 68.40	13.60 64.60	12.00 57.00
B98	120	Pkg. of 12 Box of 72	304-0980 300-0980	15.00 65.00	13.50 58.50	12.75 55.25	11.25 48.75
B121	120	Pkg. of 12 Box of 36	304-1210 300-1210	16.00 38.00	14.40 34.20	13.60 32.30	12.00 28.50
B122	120	Pkg. of 12 Box of 72	304-1220 300-1220	16.00 76.00	14.40 68.40	13.60 64.60	12.00 57.00
B123	120	Pkg. of 12 Box of 72	304-1230 300-1230	14.00 65.00	12.60 58.50	11.90 55.25	10.50 48.75
B124	120	Pkg. of 12 Box of 72	304-1240 300-1240	16.00 70.00	14.40 63.00	13.60 59.50	12.00 52.50
B125	120	Pkg. of 12 Box of 72	304-1250 300-1250	16.00 78.00	14.40 70.20	13.60 66.30	12.00 58.50
W140	120	Pkg. of 12 Box of 72	304-1400 300-1400	13.00 60.00	11.70 54.00	11.05 51.00	9.75 45.00
W144	120	Pkg. of 12 Box of 72	304-1440 300-1440	12.00 55.00	10.80 49.50	10.20 46.75	9.00 41.25
W145	120	Pkg. of 12 Box of 72	304-1450 300-1450	13.00 60.00	11.70 54.00	11.05 51.00	9.75 45.00
W152	120	Pkg. of 12 Box of 72	304-1520 300-1520	12.00 55.00	10.80 49.50	10.20 46.75	9.00 41.25
W154	120	Pkg. of 12 Box of 72	304-1540 300-1540	13.00 60.00	11.70 54.00	11.05 51.00	9.75 45.00
W163	120	Pkg. of 12 Box of 72	304-1630 300-1630	13.00 60.00	11.70 54.00	11.05 51.00	9.75 45.00
W176	120	Pkg. of 12 Box of 72	304-1760 300-1760	13.00 60.00	11.70 54.00	11.05 51.00	9.75 45.00
W200	120	Box of 12	300-2000	11.00	9.90	9.35	8.25
W216	120	Box of 12	300-2160	13.00	11.70	11.05	9.75

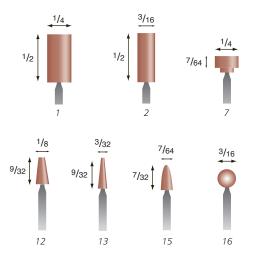






All Made in USA





Mounted Stone Sets - 1/8" Shank

Gesswein Mounted Stones are available in money-saving sets of 48 and 100 pieces. These assortments are made from our most popular shapes and offer a stone for almost every application. These sets offer big savings from the one-piece prices.

The **100-Piece Set** includes 10 each of our 10 most popular shapes, conveniently packaged in a box to hold all 100 stones. Ten each of the following shapes: B44, B52, B96, B123, W144, W152, W162, W170, W175, W200.

The **48-Piece Set** includes 6 each of 8 popular shapes, conveniently packaged in a box to hold all 48 stones. Six each of the following shapes: B44, B52, B123, W144, W152, W162, W176, W200.

Des	scription	ltem#	Each	
Blu	ie			
Α.	100-Piece Blue Mounted Stone Set	305-3000	\$95.00	
В.	48-Piece Blue Mounted Stone Set	305-3010	46.00	
Red	d			
C.	100-Piece Red Mounted Stone Set	310-3000	95.00	
D.	48-Piece Red Mounted Stone Set	310-3010	46.00	

Blue Mounted Points - 3/32" Shank

Hard blue aluminum oxide stones with cobalt added to provide lubrication while grinding. Hold their shapes, cut well. Recommended for use on hardened steel. Mounted on $\frac{3}{32}$ " dia. x $1^{1}/2$ "L nickel-plated steel shanks. All are 120 grit. Can be dressed with our Tru-Stone #380-1030.

Style	Grit	Qty.	ltem#	Pkg./Box Price
2	120	Pkg. of 12 Box of 72	316-0020 314-0020	\$14.00 61.00
6	120	Pkg. of 12 Box of 72	316-0060 314-0060	14.00 61.00
10	120	Pkg. of 12 Box of 72	316-0100 314-0100	14.00 61.00
13	120	Pkg. of 12 Box of 72	316-0130 314-0130	14.00 61.00
14	120	Pkg. of 12 Box of 72	316-0140 314-0140	14.00 61.00
16	120	Pkg. of 12 Box of 72	316-0160 314-0160	14.00 61.00

Red Mounted Points - 3/32" Shank

Very fast-cutting, nonloading aluminum oxide stones, easily identified by their reddish-brown color. For fast grinding of medium and hard materials. Ideal for internal grinding of tools, dies and gauges. Mounted on 3 /32" dia. x 1 /2"L nickel-plated steel shanks. Range from 80 to 150 grit. Can be dressed with our Tru-Stone #380-1030.

Style	Grit	Qty.	ltem#	Pkg./Box Price
1	80	Pkg. of 12 Box of 72	321-0010 319-0010	\$13.00 56.00
2	80	Pkg. of 12 Box of 72	321-0020 319-0020	13.00 56.00
7	120	Pkg. of 12 Box of 72	321-0070 319-0070	13.00 56.00
12	120	Pkg. of 12 Box of 72	321-0120 319-0120	13.00 56.00
13	120	Pkg. of 12 Box of 72	321-0130 319-0130	13.00 56.00
15	120	Pkg. of 12 Box of 72	321-0150 319-0150	13.00 56.00
16	100	Pkg. of 12 Box of 72	321-0160 319-0160	13.00 56.00

Diamond PSA Cloth

Features precisely graded diamond grit on a flexible cloth backed by pressure-sensitive adhesive. The diamond grit is positioned on raised "islands" covering the cloth, thus allowing greater flexibility and more aggressive cutting action. Can be easily cut with scissors, shaped, punched and bent to almost any configuration. Use wet or dry for applications on steel, carbide, ceramic, glass, etc. All diamond cloths are color coded for easy identification of grit. Measures 50x100mm (4" x 8").

Color	Grit	Item#	Price
Brown	120	107-4951	\$51.00
Red	200	107-4952	39.00
Yellow	400	107-4953	35.00
White	600	107-4954	35.00
Blue	1,000	107-4955	44.00



Diamond PSA Foil

Consists of diamond abrasive particles electroplated onto very thin and flexible metal foil. Backed by pressure-sensitive adhesive. Can cut to any size and shape with scissors. Simply remove the paper backing and stick foil on to your own tools, creating a new "self-made" tool. Wide range of grit selection for fast aggressive cutting or fine polishing on steels and carbides. Measures 50x100mm (4" x 8").

Grit	Item#	Price
120	107-5790	\$40.50
200	107-5792	30.95
400	107-5794	27.00
600	107-5795	23.50
1200	107-5797	23.50



Resinoid Diamond Lappers

For touching up and sharpening cutting tools, carbide and high-speed steels. The diamond stone will remove scratches and other surface imperfections. Leaves a good finish due to its resin bonding. Diamond is embedded throughout the stone ensuring cutting action as the stone wears.

Flat with Plastic Handle

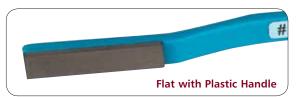
Stone Dimensions (LxW)	Grit	Item#	Price
1 ¹ /2" x ³ /8"	400	240-3031	\$35.95
	800	240-3033	35.95
	1200	240-3035	35.95

Flat with Aluminum Handle

Stone Dimensions (LxW)			
1 ¹ /8" x ³ /8"	400	240-3051	\$38.40
	800	240-3053	38.40
	1200	240-3055	38.40

Half Round with Steel Handle

Stone Dimensions (LxW)			
1 ¹ /2" x ³ /16"	400	240-3041	\$40.95
	800	240-3043	40.95
	1200	240-3045	40.95







Gesswein® Diamond Files

Premium diamond files for use on steels, carbides, ceramics, plastics and more. Feature 100% synthetic diamonds—more consistent in shape than natural diamonds—plated onto high-strength steel blanks for consistent cutting and long life.



Gesswein® Diamond Needle Files

Diamond needle files with 3mm round handles. Measure $5^{1/2}$ " long. Plated ends measure $2^{3/4}$ " long. Can be used as is or with needle file handles (see www.gesswein.com)

					Each Pric	es
Style	Shape	Grit	Item#	1-4	5-9	10+
A. Round	\Diamond	150	240-2162	\$22.00	\$20.90	\$19.80
B. Half-Round	A THE STATE OF THE	150	240-2152	22.00	20.90	19.80
C. Square		150	240-2142	22.00	20.90	19.80
D. Three-Square	A	150	240-2132	22.00	20.90	19.80
E. Equalling		150	240-2112	22.00	20.90	19.80
F. Barrette		150	240-2102	22.00	20.90	19.80
6-Piece Set (one	of each)	244	240-2200	125.00	_	_



Needle File Handle

Durable plastic handle that holds all needle files. Measures 3¹/₄" long.

Description	ltem#	Each
Needle File Handle	170-4010	\$4.95



Gesswein® Diamond Hand Files

Heavy-duty diamond hand files with square shanks for use by hand or with handles. Measures 215mm ($8^7/16$ ") long. Plated ends measure a generous 80mm ($3^5/32$ ") long.

	Style	Shape	W x Thick	Grit	Item#	Each
G.	Equalling		11.0 x 3.5mm	100	241-0746	\$39.95
				200	241-0747	39.95
				400	241-0748	39.95
Н.	Square		6.3 x 6.3mm	100	241-0735	39.95
				200	241-0736	39.95
				400	241-0737	39.95
l.	Half-Round	WILLIAM TO THE STREET	10.5 x 4.4mm	100	241-0749	39.95
				200	241-0730	39.95
				400	241-0731	39.95
J.	Round	0	5.0mm	100	241-0732	39.95
				200	241-0733	39.95
				400	241-0734	39.95
K.	Three-Square	Δ	7.7mm	100	241-0738	39.95
				200	241-0739	39.95
				400	241-0740	39.95
5-l	Piece Set (one	of each style		100	241-0741	169.95
			Best 3	200	241-0742	169.95
			Sellers!	400	241-0743	169.95
			7			





Spectra Diamond Files

High-quality diamond files at economical prices. Feature a combination of natural and synthetic diamonds firmly plated onto durable steel blanks. Made in Germany.

Spectra Medium Diamond Needle Files

Diamond needle files with 3mm round handles. Measure $5^{1}/2^{11}$ (14cm) long. Plated ends measure $2^{3}/4^{11}$ long. Medium grit (D126, or U.S. standard 120/140).

				Each Prices	
Style	Shape	ltem#	1-4	5-9	10+
A. Equalling		241-0010	\$30.25	\$28.74	\$27.23
B. Flat-Pointed		241-0020	30.25	28.74	27.23
C. Half-Round	A STATE OF THE PERSON OF THE P	241-0030	30.25	28.74	27.23
D. Round	0	241-0040	30.25	28.74	27.23
E. Knife	The state of the s	241-0050	30.25	28.74	27.23
5-Piece Set (one of each)	241-0250	141.00		v

Best Sellers!

Spectra Fine Diamond Needle Files

Diamond needle files with 3mm round handles. Measure $5^{1}/2^{\circ}$ (14cm) long. Plated ends measure $2^{3}/4^{\circ}$ long. Fine grit (D91, or U.S. standard 170/200).

				Each Prices	5
Style	Shape	ltem#	1-4	5-9	10+
F. Equalling		241-0012	\$30.25	\$28.74	\$27.23
G. Flat-Pointed		241-0022	30.25	28.74	27.23
H. Half-Round	A MANUEL	241-0032	30.25	28.74	27.23
I. Round	0	241-0042	30.25	28.74	27.23
J. Knife	The state of the s	241-0052	30.25	28.74	27.23
5-Piece Set (one of each)		241-0245	141.00		



Spectra Diamond Micro Files

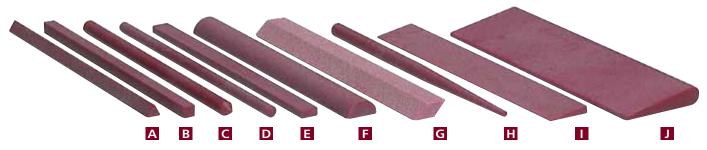
Mini diamond files with 3 /32" wide handles. Measure approx. 4" long except round, which measures approx. 3^3 /4" long. Plated ends measure approx. 2" long with 1 /16"– 1 /32" taper for round only. Very fine grit (D64, or U.S. standard 230/270).

				Each Prices	;
Style	Shape	ltem#	1-4	5-9	10+
K. Round (tapered)	0	241-0500	\$26.00	\$24.70	\$23.40
L. Half-Round	***************************************	241-0505	26.00	24.70	23.40
M. Square		241-0510	26.00	24.70	23.40
N. Three-Square	Δ	241-0515	26.00	24.70	23.40
O. Equalling		241-0520	26.00	24.70	23.40
5-Piece Set (one of each)		241-0525	123.00		M ₁ =



Gesswein® Ruby® Stones and Files — For use on hardened steel and carbide.

Use Gesswein Ruby Stones for deburring, blending, dressing, and fine polishing of molds & dies made of hard metals such as hardened tool steel, carbide and surgical stainless steel. Extremely hard and highly resistant to wear. Pure sintered crystals of synthetic ruby with no bonding material Made in Germany.





Applications:

Mold & Die

- Deburring ejector pin holes.
- General deburring and edge breaking on mold steel and carbide.
- Blending a surface where a straight edge meets a radius.
- Polishing highly detailed areas on dies (after dressing Ruby Stone to a point).
- Polishing ribs and other hard to reach areas (Ruby Midget Files, p. 25).

Medical

• Fine polishing of surgical stainless steel instruments.

Also recommended for use on materials such as glass, quartz and porcelain.

Ruby[®] Stones

Available in Coarse, Medium and Fine grits.

	LxWxH*	Coarse		Medium		Fine	
Shape	(mm)	Item#	Each	Item#	Each	Item#	Each
A. Triangular	100 x 4	-	_	350-2002	\$58.70	_	-
	100 x 6	350-2011	\$67.10	350-2012	67.10	-	_
	100 x 8	350-2021	78.60	350-2022	89.60	350-2023	\$102.60
	100 x 10	-	_	350-2032	89.60	350-2033	116.75
B. Square	100 x 4	-	_	350-2102	66.65	-	-
	100 x 6	350-2111	63.30	350-2112	69.35	-	-
	100 x 8	350-2121	78.00	350-2122	89.25	350-2123	89.60
	100 x 10	350-2131	89.60	350-2132	100.50	350-2133	103.25
	120 x 13	-	_	350-2142	116.75	350-2143	129.10
C. Round, Pointed	• 100 x 5	_	_	_	_	350-2613	41.55
D. Round	100 x 4			350-2702	63.30	350-2703	68.35
D. Nourid	100 x 6	350-2711	66.95	350-2702	78.00	-	- 00.55
	100 x 8	350-2711	81.90	350-2712	80.70	350-2723	84.90
	100 x 10	350-2721	81.60	350-2722	89.00	350-2723	94.30
E. Flat	100 x 6 x 3	-		350-2732	54.95	350-2733	53.05
	100 x 8 x 6	350-2211	69.45	350-2212	69.45	350-2213	79.15
F. Half-Round	100 x 10	350-2311	69.65	350-2312	83.65		
G. Rhomboid	100 x 13 x 5	350-2401	90.15		_	_	
H. Round, One							
Tapered End	• 100 x 5 x 2	350-2551	60.90	-	_	350-2553	60.90
I. Knife Edge	100 x 15 x 3/0.5	-	_	350-2912	130.25	350-2913	130.25
J. Tapered, Rounded Edge	100 x 30 x 7/2	-	_	350-1052	171.80	_	_

^{*}All dimensions have tolerance of ± 0.1 mm.

Ruby[®] Bench Stones

Very effective for sharpening and for flattening steel and carbide parts. The first two sizes of stones listed are finished on both sides. The rest are finished on one side only and come neatly mounted in wooden boxes.



Dimensions (inches)	Medium Item#	Each	Fine Item#	Each
4 x 1 x ³ / ₈ "*	350-1002	\$106.65	350-1003	\$117.90
6 x 1 x ⁵ / ₈ "*	350-1012	171.80	350-1013	171.80
4 x 1 x ³ / ₈ "	350-1102	95.45	350-1103	112.30
4 ³ / ₄ " x 2 x ³ / ₈ "	350-1112	252.60	350-1113	252.60

^{*}Finished on both sides.



steel or carbide.

Finished on two sides and neatly packaged in a wooden box. One side of the stone is medium and the other side is fine. Ideal for sharpening knives and gravers made of high speed

Dimensions (inches)	ltem#	Each
4 ³ / ₄ " x 2" x ³ / ₈ "	350-1114	\$296.40



Ruby® Stone Set #700

This handy set contains one each of the Ruby Stones indicated below. Save money by purchasing the kit vs. buying stones individually.

Shape	L x W x H* (mm)	Grit
Round	100 x 6	Medium
Triangular 🛕	100 x 10	Medium
Flat	100 x 8 x 6	Fine
Half-Round	100 x 10	Coarse
Square	100 x 10	Medium
*All dimensions have tolerance of ±0.1mm.		

Item#

350-3000

Each

\$288.40



Ruby® Midget Files

Extremely hard and highly resistant to wear. Pure sintered crystals of synthetic ruby with no bonding material. Ruby stones will retain their original shape – a valuable feature for high detail and ultra-precision deburring. Will also break edges, radius edges and sharpen cutting edges like those in surgical staplers.

	LxWxH*	L x W x H* Each Prices		Prices
Shape	(mm)	Item#	1-19	20+
A. Square	■ 50 x 1	350-4000	\$7.85	\$6.54
B. Round	• 50 x 1	350-4010	8.15	6.79
C. Triangular	▲ 50 x 2	350-4020	9.95	8.29
D. Flat	50 x 3 x 0.3	350-4060	9.85	8.21

	LxWxH*		Each	Prices
Shape	(mm)	ltem#	1-9	10+
E. Square	100 x 2	350-4030	\$19.05	\$15.87
F. Round	• 100 x 2	350-4040	19.05	15.87
G. Round	100 x 3	350-4050	19.05	15.87
H. Half-Round	100 x 4 x 2	350-4070	29.20	24.33
I. Barrette	100 x 5 x 1.5	350-4090	31.25	26.04
J. Crossing	◆ 100 x 4 x 1.5	350-4110	29.20	24.33
K. Triangular	▲ 100 x 3	350-4130	29.20	24.33

^{*}All dimensions have tolerance of ± 0.1 mm.



Ruby[®] Midget File Set #420

This money-saving kit contains all 11 of our Ruby Midget Stones (see above) plus one double-ended holder with two collets. Holder is available only with this kit and not sold separately.

• Screw machine operators will find this set particularly helpful for dressing cutters without removing them from the machine.

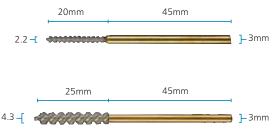
Description	Item#	Each
Ruby Midget File Set #420	350-4200	\$165.95

Description

Ruby Stone Set #700



Micro Spiral Brush mounted in Z-08X micromotor rotary handpiece to clean a small diameter hole.



Micro Spiral Abrasive Brushes

Use Micro Spiral Brushes to deburr an edge-hole, inside hole or cross hole.

Suitable for removing rust in cylinders, pipes, grooves and screw holes. Aluminum oxide abrasive is embedded in the nylon bristles. Made in Japan.

This new brush concept is a perfect tool for cleaning or light burr removal in through holes or on hole edges. The 0.3mm diameter nylon bristle contains 500 grit Aluminum Oxide abrasive grain. Easy to hold and use by hand or can be carefully used in a rotary handpiece if run no faster than 3,000rpm* (3mm shank diameter). Each brush's wire mandrel top (except MSB 2.2 and MSB 2.7) is coated with epoxy resin to protect the work surface from damage.

Style	Dia. X L	ltem#	Each
MSB 2.2	2.2 x 20mm	115-2288	\$7.95
MSB 2.7	2.7 x 20mm	115-2289	7.95
MSB 3.3	3.3 x 25mm	115-2290	7.95
MSB 3.8	3.8 x 25mm	115-2291	7.95
MSB 4.3	4.3 x 25mm	115-2292	7.95
MSB 4.8	4.8 x 25mm	115-2293	7.95
MSB 5.3	5.3 x 25mm	115-2294	7.95
MSB 5.8	5.8 x 25mm	115-2295	7.95
MSB 6.3	6.3 x 25mm	115-2296	7.95

^{*3,000}rpm max when used in a rotary handpiece. Do not operate until fully inserted into the hole to be processed.



Precision Deburring Tool Set

Double-ended tools with revolving hardened steel discs for deburring a variety of delicate parts. Feature knurled handles for secure grip.

Sold individually and in a set with storage pouch. Made in Switzerland.

Description	Item#	Each
6-Piece Set	846-2045	\$74.75

Individual Precision Deburring Tools

Disc Diameter	Item#	Each
0.060" and 0.070"	846-2039	\$14.95
0.082" and 0.092"	846-2040	14.95
0.106" and 0.116"	846-2041	14.95
0.134" and 0.150"	846-2042	14.95
0.160" and 0.185"	846-2043	14.95
0.198" and 0.208"	846-2044	14.95
	0.060" and 0.070" 0.082" and 0.092" 0.106" and 0.116" 0.134" and 0.150" 0.160" and 0.185"	0.060" and 0.070" 846-2039 0.082" and 0.092" 846-2040 0.106" and 0.116" 846-2041 0.134" and 0.150" 846-2042 0.160" and 0.185" 846-2043



Ceramic Deflashing and Deburring Tools for Plastic Each holds its edge indefinitely and provides complete user safety.

These tools feature space-age ceramics that debur hard plastics effortlessly while eliminating the fear of cutting your hands or fingers in the process. Ideal for curved and complicated shapes. Excellent on ultra-hard resins that defy carbon steel tools. Can also be used on soft metals such as aluminum, copper and brass.

Available in 3 sizes: Large Disposable Deflasher ($6^{7}/8$ " long with $1^{1}/2$ " long cutting edge) has matte cutter-type handles; Small Disposable Deflasher ($5^{1}/4^{\circ}$ long with 1° long cutting edge) has a fluted, nonroll design; Micro Deflashing Pen $(5^{7}/8" \text{ long with } ^{3}/8" \text{ long cutting edge})$ has 2 jaw chuck for easy blade replacement.

Description	Item#	Each
A. Large Ceramic Deflasher	351-0295	\$32.95
B. Small Ceramic Deflasher	351-0294	29.95
C. Micro Ceramic Deburring Pen	351-0001	29.95
Replacement Micro Blades – 5-Pack	351-0002	29.95



Shaviv Hand Deburring Tools

Internationally recognized as the leading developer and manufacturer of hand-deburring tools, Shaviv is the choice of leading companies in the mold & die, automotive, aviation, plastics, electronics assembly and other industries.

Gesswein is proud to bring you a comprehensive collection of Shaviv's most popular, high-quality ergonomic tools for precision deburring.

Shaviv "B" style and "E" style blades are available in numerous materials and configurations for efficient deburring of dozens of materials and hundreds of applications. "B" style blades are 2.6mm thick and available for applications on steel, aluminum, stainless steel, copper, brass, cast iron, hardened steel, plastics, carbide, and glass. "E" style blades are 3.2mm thick and are useful for heavier duty applications with materials as listed above. See chart below for specific blades and their applications.

SETS

Mango II B+4 with Multi-Purpose "B" Blades

Contains the Mango IIB extra-close-reach handle with a variety of blades for deburring materials with spiral or powdery chips. Included are one each of the B10, B11, B20, & B25 blades for deburring steel, aluminum, copper, brass, cast iron, and plastics.

Mango II E+5 with Heavy Duty "E" Blades

Contains the Mango IIE extra-close-reach handle for heavy duty use in applications similar to those listed for the Mango IIB kit. Included are one each of the E100, E111, E120, E200, & E300 blades.

Mango II B+E - The Two in One

Contains the Mango IIM telescopic long-reach handle for variable extended reach up to 4". **Accommodates both B+E style blades**. Included are one each of the B10, B20, B30, E100, E111, and E200 blades.

SETS	Item#	Each
Mango II B+4 with 4 Multi-Purpose Blades	846-2060	\$13.95
Mango II E+5 with 5 Heavy Duty Blades	846-2062	17.95
Mango II B+E with 6 Blades	846-2064	28.95



Mango II B



Mango II E



Mango II B+E

			Applications Materials													
Description	Mfg.#	Blade (Work Direction Shown)	Straight Edge	Hole Edge	Cross-Hole Both Edges	Steel	Aluminum	Cepper	Beass	Cast Iron	Stainless Steel	Plastics	Item#	Pack	1-2 Pkgs	3+ Pkgs
HSS. Deburrs materials with spiral chips.	B10	~~	•	•		•	•	•				•	846-2070	10	\$15.00	\$13.50
PVD TiN coated for high resistance to wear. B10 geometry.	B10P	~ ~	•	•		•	•	•			•	•	846-2075	2	6.00	5.40
Long-lasting, cobalt-enriched. B10 geometry.	B10S		•	•		•	•	•			•	•	846-2074	10	15.00	13.50
Extra thin, HSS. Deburrs holes with min. diameter 0.08" (2mm).	B11		•	•		•	•	•				•	846-2071	10	15.00	13.50
PVD TiN coated for high resistance to wear. B11 geometry.	B11P		•	•		•	•	•			•	•	846-2076	2	6.00	5.40
HSS. Rotates clockwise & counterclockwise.	B20	\sim	•	•					•	•		•	846-2072	10	15.00	13.50
PVD TiN coated for high resistance to wear. Rotates clockwise & counterclockwise. B20 geometry.	B20P		•	•					•	•	•	•	846-2077	2	6.00	5.40
HSS. Thin-nosed. Specially designed for plastics.	B25	~~	•	•		•	•	•	Г		Г	•	846-2073	10	15.00	13.50
HSS. Simultaneously deburrs the inside and outside of holes up to 0.16" (4 mm) thick.	B30	~		Г	•	•	•	•				•	846-2078	10	20.00	18.00
Heavy-duty HSS. Deburrs materials with spiral chips. Bulk pack available.	E100	\sim	•	•		•	•	•				•	846-2080	10	20.00	18.00
Long-lasting, cobalt-enriched. E100 geometry.	E100S		•	•		•	•	•			•	•	846-2087	10	20.00	18.00
Thin-nosed. HSS. Deburrs holes with min. diameter 0.06" (1.5mm).	E111	~	•	•		•	•	•				•	846-2088	10	20.00	18.00
PVD TiN coated for high resistance to wear.	E111P		•	•		•	•	•				•	846-2086	2	8.00	7.20
HSS. E shaft, B20 cutting edge for materials with powdery chips. Rotates clockwise & counterclockwise.	E120	~	•	•					•	•		•	846-2082	10	20.00	18.00
HSS for materials with powdery chips. Rotates clockwise & counterclockwise.	E200	~	•	•					•	•		•	846-2085	10	20.00	18.00
PVD TiN coated for high resistance to wear. E200 geometry.	E200P	~	•	•					•	•		•	846-2083	2	8.00	7.20
HSS for materials with spiral chips. Simultaneously deburrs the inside and outside of holes up to 0.24" (6 mm) thick.	E300	~			•	•	•	•				•	846-2084	10	20.00	18.00

Cotton Fiber + Abrasive Mounted Points

GMX, Soft Latex Bond

GMX cotton fiber products utilize a unique flexible bond with laminates of non-woven, aluminum oxide abrasive impregnated fabric, with laminations that run parallel to the shank to prevent the ends from chipping. The construction continually exposes new abrasive grain for cooler running, and the flexible bond allows for reduced vibration and chattering. Unlike bonded or coated abrasives, these do not load up when working on softer metals or alloys, such as aluminum. Cylinders and other shapes can be dressed to conform to unique contours. Excellent for breaking edges, deburring, and blending on aluminum, stainless steel, and exotic alloys. GMX is also ideal for polishing mold runners and mold & die components. See Grinding Wheel Institute publications for operating speeds of mounted products. Available 1/4" shank, 3mm shank and 6mm shank available via special order.

G-Flex, Firm Resin Bond

G-Flex cotton fiber products are similar to the GMX, but use a firm resin bond. It is also non-loading and can grind and finish in one operation. A special formulation keeps it from being too aggressive, and works well on aluminum, stainless steel, and exotic alloys. Another favorite for cleaning and polishing mold runners, as well as deburring and edge breaking on all metals. Also work great for deflashing of die castings, as well as deburring and finishing of turbine blade roots. See Grinding Wheel Institute publications for operating speeds of mounted products. 3mm shanks are in stock on some cylinders, others are available by special order.









Cotton Fiber Mounted Points - 1/8" Shank

			SOFT	HARD		- 1	ь.	
Chana	Cizo	Crit	GMX	G-FLEX	1 11	Each 12-71		1 / / /
Shape	Size	Grit	Item #	Item#	1-11	12-71	72-143	144+
B41 Cone	⁵ /8" x ⁵ /8"	80	205-1812	135-1812	\$9.15	\$7.78	\$6.86	\$6.13
		120	205-1814	135-1814	9.15	7.78	6.86	6.13
		180	205-1816	135-1816	9.15	7.78	6.86	6.13
		320	205-1818	135-1818	9.95	8.46	7.46	6.67
B52 Bullet	³ / ₄ " x ³ / ₈ "	80	205-1722	135-1722	7.25	6.16	5.44	4.86
		120	205-1724	135-1724	7.25	6.16	5.44	4.86
		180	205-1726	135-1726	7.25	6.16	5.44	4.86
		320	205-1728	135-1728	7.95	6.76	5.96	5.33
B121 Ball	1/2"	80	205-1832	135-1832	5.95	5.06	4.46	3.99
		120	205-1834	135-1834	5.95	5.06	4.46	3.99
		180	205-1836	135-1836	5.95	5.06	4.46	3.99
		320	205-1838	135-1838	6.75	5.74	5.06	4.52
B122 Ball	3/8"	80	205-1732	135-1732	5.95	5.06	4.46	3.99
		120	205-1734	135-1734	5.95	5.06	4.46	3.99
		180	205-1736	135-1736	5.95	5.06	4.46	3.99
		320	205-1738	135-1738	6.75	5.74	5.06	4.52

HADD

1/4" shank, 3mm shank and 6mm shank available via special order.

See Page 31 for Our Money-Saving Sets

Cotton Fiber Mounted Points - 1/8" Shank

Cotton inc	.i wodiited i	011103	70 511a 11	IX.				
			SOFT GMX	HARD G-FLEX		Each	n Prices	
Shape	Size	Grit	Item #	Item#	1-11	12-71	72-143	144+
W154 Cvlinder	¹ / ₂ " L x ³ / ₁₆ " D	80	205-1542	135-1542	\$4.95	\$4.21	\$3.71	\$3.32
<u> </u>	72 - 11 7 10 -				7	* ***	4-11	7
		120	205-1544	135-1544	4.95	4.21	3.71	3.32
		180	205-1546	135-1546	4.95	4.21	3.71	3.32
		320	205-1548	135-1548	5.50	4.68	4.13	3.69
W163 Cylinder	¹ / ₂ " L x ¹ / ₄ " D	80	205-1632	135-1632	4.95	4.21	3.71	3.32
		120	205-1634	135-1634	4.95	4.21	3.71	3.32
		180	205-1636	135-1636	4.95	4.21	3.71	3.32
		320	205-1638	135-1638	5.80	4.93	4.35	3.89
W176 Cylinder	¹ / ₂ " L x ³ / ₈ " D	80	205-1762	135-1762	5.25	4.46	3.94	3.52
		120	205-1764	135-1764	5.25	4.46	3.94	3.52
		180	205-1766	135-1766	5.25	4.96	3.94	3.52
		320	205-1768	135-1768	6.15	5.23	4.61	4.12
W177 Cylinder	³ / ₄ " L x ³ / ₈ " D	80	205-1772	135-1772	6.15	5.23	4.61	4.12
		120	205-1774	135-1774	6.15	5.23	4.61	4.12
		180	205-1776	135-1776	6.15	5.23	4.61	4.12
		320	205-1778	135-1778	6.95	5.91	5.21	4.66
W185 Cylinder	¹ / ₂ " L x ¹ / ₂ " D	80	205-1852	135-1852	5.25	4.46	3.94	3.52
		120	205-1854	135-1854	5.25	4.46	3.94	3.52
		180	205-1856	135-1856	5.25	4.46	3.94	3.52
		320	205-1858	135-1858	5.60	4.76	4.20	3.75
W186 Cylinder	³ / ₄ " L x ¹ / ₂ " D	80	205-1862	_	6.15	5.23	4.61	4.12
		120	205-1864	_	6.15	5.23	4.61	4.12
		180	205-1866		6.15	5.23	4.61	4.12
		320	205-1868		7.10	6.04	5.33	4.76

See Page 31 for Our Money-Saving Sets













GMX - Cotton Fiber + Abrasive, Soft Latex Bond

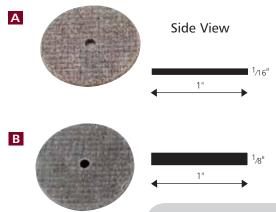
A long-lasting aluminum oxide abrasive in a unique composite of laminated cotton fiber in a unique flexible bond. GMX cuts and smooths in one operation leaving a smooth, even finish. **Round Sticks** are popular for smoothing the inside of holes. Use 80 grit for deburring, 120 grit to remove parting lines and small burrs, 180 and 320 grit for removing light scratches. **Discs** can be dressed to conform to shape of work piece (see **www.gesswein.com** for mandrels). Made in USA.



GMX Sticks

Used for polishing and touching up molds, dies and metal parts. Less aggressive than finishing stones, GMX sticks produce a surprisingly smooth surface.

			Each	Prices
Dimensions	Grit	ltem#	1-11	12+
4"L x ¹ / ₄ " Square	80	206-9250	\$3.95	\$3.36
	120	206-9260	3.95	3.36
	180	206-9270	3.95	3.36
	320	206-9280	5.60	4.76
4"L x ¹ / ₄ " Round	80	206-9320	7.25	6.16
	120	206-9325	7.35	6.25
	180	206-9330	7.35	6.25
	320	206-9335	8.35	7.10
4"L x ¹ / ₂ " Round	80	206-9340	8.15	6.93
	120	206-9345	8.15	6.93
	180	206-9350	8.15	6.93
	320	206-9355	9.40	7.99
6"L x ¹ / ₄ " Round	80	206-9360	10.15	8.63
	120	206-9365	10.15	8.63
	180	206-9370	10.15	8.63
	320	206-9375	11.85	10.07
6"L x ¹ / ₂ " Round	80	206-9380	10.75	9.14
	120	206-9385	10.75	9.14
	180	206-9390	10.75	9.14
	320	206-9395	12.35	10.50



GMX Discs

				Each	Prices
Dia. x Thick x AH	Grit	Max. RPM	Item#	1-11	12+
A. 1" x ¹ /16" x ¹ /8"	120	36,290	205-5204	\$4.60	\$3.91
	180	36,290	205-5206	4.60	3.91
	320	36,290	205-5208	5.10	4.34
B. 1" x ¹ /8" x ¹ /8"	80	36,290	205-5252	4.60	3.91
	120	36,290	205-5254	4.60	3.91
	180	36,290	205-5256	4.60	3.91
	320	36,290	205-5258	5.10	4.34

Use Mandrel **840-3110** with ½" shank **\$2.90** each. Please order in multiples of 3.

Visit Our Website www.gesswein.com to See Our Complete Line of Deburring and Finishing Products

Cotton Fiber + Abrasive Mounted Points Sets

Gesswein cotton fiber sets each offer an assortment of (6) GMX (Soft Latex Bond) and (6) G-Flex (Hard Resin Bond) 1/8" Shank shapes in various grits for specific applications.

- General purpose deburring and edge finishing
- Stainless and exotic alloy finishing and deburring
- Aluminum and non-ferrous finishing and deburring

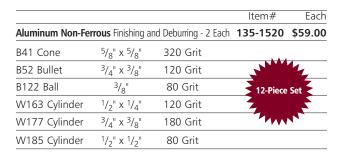
See Grinding Wheel Institute Publications for operating speeds of mounted products.

Application Specific 12-piece Assortments

Each 12-piece set includes 1 each GMX & G-Flex mounted points in the indicated shapes and grits.

A cost effficient way to sample various, shapes, sizes, and grits for your individual needs.

	LXD		Item#	Each
General Purpose D	eburring and Edg	ge Finishing - 2 Each	135-1510	\$59.00
B52 Bullet	3/ ₄ " x 3/ ₈ "	80 Grit		
B122 Ball	3/8"	80 Grit	7,1	44
W154 Cylinder	1/2" x 3/16"	320 Grit	12-Piece	Set
W163 Cylinder	1/2" x 1/4"	80 Grit	2121166	
W177 Cylinder	³ / ₄ " x ³ / ₈ "	180 Grit	7,11	1
W185 Cylinder	1/ ₂ " x 1/ ₂ "	120 Grit		





-			Item#	Each
Stainless and Exot	ic Alloy Finishing	and Deburring - 2 Each	135-1530	\$59.00
B52 Bullet	³ / ₄ " x ³ / ₈ "	80 Grit		
B122 Ball	3/8"	80 Grit	7	
W154 Cylinder	$^{1}/_{2}$ " x $^{3}/_{16}$ "	120 Grit	12-Piece Set	E
W163 Cylinder	$^{1}/_{2}$ " x $^{1}/_{4}$ "	80 Grit	3, ,	
W177 Cylinder	$^{3}/_{4}^{"} \times ^{3}/_{8}^{"}$	120 Grit	M	
W185 Cylinder	1/ ₂ " x 1/ ₂ "	80 Grit		

Rugi Mounted Cylinders - 1/8" and 1/4" Shanks

These highly resilient mounted cylinders are made with a rubberized abrasive bond so unique, both the abrasive material and the bond are patented. Easy to shape for contours, yet vibration-free. For fine grinding. Will not scratch work surface. Durable and elastic. Lower loading than vitrified and resin bond points. Excellent for grinding turbine blades; deburring openings of jet engines and turbine parts, gears and slots; finishing welds on stainless steel; and finishing glass, rubber and plastic molds.

Available on $^1\!/\!8"$ and $^1\!/\!4"$ shanks. Max. operating speed: 30,000rpm for $^1\!/\!8"$ shanks, 20,000rpm for $^1\!/\!4"$ shanks.

Dia. x L (mm)	Shank	80 Grit Red Item#	120 Grit Black Item#	180 Grit Brown Item#	220 Grit Green Item#	Pkg. of 10
6 x 15	1/8"	353-0002	353-0003	353-0004	353-0005	\$23.40
8 x 15	1/8"	353-0006	353-0007	353-0008	353-0009	23.40
10 x 15	1/8"	353-0010	353-0011	353-0012	353-0013	23.40
13 x 20	1/4"	353-0014	353-0015	353-0016	353-0017	29.00
15 x 20	1/4"	353-0018	353-0019	353-0020	353-0021	33.00
20 x 20	1/4"	353-0022	353-0023	353-0024	353-0025	39.50
20 x 25	1/4"	353-0026	353-0027	353-0028	353-0029	42.55
25 x 25	1/4"	353-0030	353-0031	353-0032	353-0033	54.60

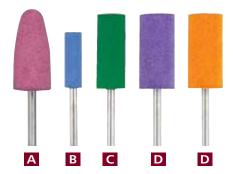


Color	Designation	Approx. Grit
Red	Coarse	80
Blue	Medium	120
Green	Fine	220
Purple	Extra-Fine	320
Orange	Ultra-Fine	500

Cera — Ceramic Abrasive and Synthetic Rubber Combine to Produce a Near Mirror-Like Shine with Minimal Wear.

This revolutionary abrasive consists of ceramic particles mixed in a long-lasting synthetic rubber carrier. Its fast breakdown rate ensures ceramic particles are always exposed to the polishing surface. Resists clogging for high efficiency. Blends well and removes stoning scratches with ease, leaving a smooth finish. Cuts safely and smoothly.

Great for cleaning, deburring, precision grinding, polishing and super finishing of molds, dies, small electrical components, sensitive equipment and more. Use dry or wet on steels, alloys and stainless steel. Work with light pressures. Refer to chart for grit designations.



Cera Points - 3/32" Shank

Points mounted on 3/32" stainless steel shanks. Max. operating speed: 30,000rpm.

Dimensions	Red	Blue	Green	Purple	Orange		
	80 Grit	120 Grit	220 Grit	320 Grit	500 Grit	Each	Prices
(mm)	Item#	Item#	Item#	Item#	Item#	1-11	12+*
A.10 x 22	351-0624	351-0625	351-0626	351-0627	351-0628	\$7.04	\$6.34
B. 5 x 15	351-0600	351-0601	351-0603	351-0604	351-0605	5.89	5.30
C. 8 x 20	351-0606	351-0607	351-0609	351-0610	351-0611	5.89	5.30
D. 10 x 20	351-0612	351-0613	351-0615	351-0616	351-0617	5.89	5.30

^{*}Quantity discount for orders of one item# only, not assorted.



2mm

Cera Wheels - Ceramic Abrasive

Un-mounted wheels with 1/16" arbor holes. Max. operating speed: 18,000rpm.

Dimension	s Red	Blue	Green	Orange		
	80 Grit	120 Grit	220 Grit	500 Grit	PKG	. of 10
(mm)	Item#	Item#	Item#	Item#	1-4	5+*
A. 18 x 3	352-0101	352-0102	352-0103	352-0104	\$27.39	\$24.65
B. 18 x 2	_	352-0108	352-0109	352-0111	27.39	24.65
C. 18 x 1	_	352-0114	352-0115	352-0117	27.39	24.65

Use Mandrel **840-3150** with ¹/₈" shank **\$1.35** each. Please order in multiples of 3. *Quantity discount for orders of one item# only, not assorted.



Poly Polishers, Wheels & Points - 3/32" Shank

- Silicon Carbide abrasive in a specially formulated polyurethane rubber bond for long life outlasts other types of rubber abrasives.
- Mounted on 3/32" shanks. Max. operating speed: 15,000rpm.
- Sold in packages of 10 or in money-saving packages of 100.

Mounted on 3/32" Shank	Dia. x L	Item#	Pkg.(10)	Item#	Pkg.(100)
Blue - Coarse, Slightly Flexible					
A. Mtd. Point	4 x 12mm	145-1115	\$11.85	145-1114	\$95.00
Gray – Medium, Moderately Flexible					
B. Mtd. Point	4 x 12mm	145-1129	11.85	145-1128	95.00
C. Square-Edge Mtd. Wheel	16 x 2.4mm	145-1411	13.30	145-1410	107.00
Brown – Fine, Moderately Flexible					
D. Mtd. Point	4 x 12mm	145-1143	11.85	145-1142	95.00
Green – High Shine, Moderately Flex					
E. Mtd. Point	4 x 12mm	145-1157	11.85	145-1156	95.00
F. Square-Edge Mtd. Wheel	16 x 2.4mm	145-1415	13.30	145-1414	107.00

Poly Polishers, Rods

- Designed for cleaning and polishing castings and metal parts. All are silicon carbide abrasive in a polyurethane carrier.
- Rods measure approximately 1" long and are available in 2, 3 and 4mm diameters for accessing tiny and/or recessed areas. Use in our Polishing Rod Mandrels.
- Can easily be dressed to a point.
- Each color/grit is sold in packages of 25 or 100 pieces.





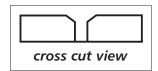
					Box		Вох
Color	Diameter	Grit	Bond	Item#	of 25	ltem#	of 100
A. Dk. Brown	2mm	Extra-Coarse	Extra-Hard	145-1270	\$10.50	145-1241	\$36.90
	3mm	Extra-Coarse	Extra-Hard	145-1271	10.50	145-1242	36.60
	4mm	Extra-Coarse	Extra-Hard	145-1272	12.95	145-1243	45.40
B. Blue	2mm	Coarse	Hard	145-1273	10.50	145-1244	36.60
	3mm	Coarse	Hard	145-1274	10.50	145-1245	36.60
	4mm	Coarse	Hard	145-1275	12.95	145-1246	45.40
C. Dk. Gray	2mm	Medium	Medium	145-1276	10.50	145-1247	36.60
	3mm	Medium	Medium	145-1277	10.50	145-1248	36.60
	4mm	Medium	Medium	145-1278	12.95	145-1249	45.40
D. Brown	2mm	Fine	Medium	145-1279	10.50	145-1250	36.60
	3mm	Fine	Medium	145-1280	10.50	145-1251	36.60
E. Green	2mm	Extra-Fine	Medium	145-1282	10.50	145-1254	36.60
	3mm	Extra-Fine	Medium	145-1283	10.50	145-1253	36.60
F. Lilac	3mm	Fine	Soft	145-1361	15.65	145-1360	45.00
G. 2mm Rod Mandrel, ³ / ₃₂ " shan	ık			145-1217	3.70		
3mm Rod Mandrel, ³ / ₃₂ " shar	nk			145-1218	3.95		
4mm Rod Mandrel, ³ /32" shar	nk			145-1219	3.95		

Dressing Stone

- For use with Rubber Polishing Rods.
- Diamond Impregnated
- Has a concave center hole for forming a point on polishing rods. Measures $^{3}/_{4}$ " dia. x $^{1}/_{8}$ " thick.

Dressing Stone	145-1240	£4.50
Description	ltem#	Each





Diamond Coated Dressing Block

- Solid steel block with diamond coating for fast dressing and shaping of any of our rubberized abrasives.
- One side is grooved for shaping rods, points and knife-edged wheels. The other sides are flat for dressing square-edged wheels.
- Measures 31/2"overall length (including handle).

Description	Item#	Each
Dressing Block	145-1315	\$58.00



For Our Wire Brushes Go to: www.gesswein.com

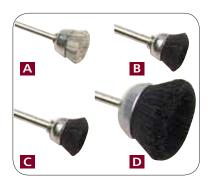
SUPRA® Brushes

SUPRA® "MM" Bristle Wheel Brushes

Wheel and cup brush filaments are securely anchored in a solid steel ring for durability and uniformly distributed for even wear. End brushes boast one-piece ferrule construction ensuring stem and ferrule do not separate during use. Maximum operating speed 25,000rpm. All made in USA.

		Bristle		Trim			DOZEI	N Prices
	Style	Type	Shank	Length	Diameter	Item#	1-11	12+
Α.	710	Hard	3/32"	1/8"	9/16"	112-7100	\$8.95	\$7.46
	700	Soft	3/32"	1/8"	^{9/} 16"	112-7000	9.95	8.29
В.	711	Hard/Silver	3/32"	³ / ₁₆ "	3/4"	112-7110	6.75	5.62
	711	Hard/Black	3/32"	³ / ₁₆ "	3/4"	112-7109	5.85	4.87
C.	711D1	Hard	3/32"	³ / ₁₆ "	3/4"	112-7111	49.85	41.54
D.	701	Soft	3/32"	³ / ₁₆ "	3/4"	112-7010	7.90	6.58
	701D1	Soft	3/32"	³ / ₁₆ "	3/4"	112-7011	52.00	43.33
Ē.	712D2	Hard	1/8"	3/16"	3/4"	112-7120	40.75	33.96
	702D ²	Soft	1/8"	3/16"	3/4"	112-7020	48.95	40.79
F.	713*	Hard	1/8"	3/16"	3/4"	112-7130	11.50	9.58
	703*	Soft	1/8"	3/16"	3/4"	112-7030	13.95	11.62
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^{*}Asterisked items also available on 3mm shanks.

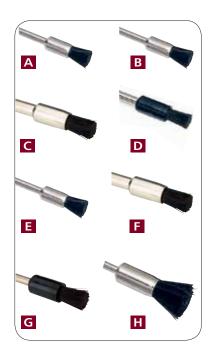


SUPRA® "MM" Bristle Cup Brushes

		Wire		Trim			DOZEN Prices	
	Style	Type	Shank	Length	Diameter	ltem#	1-11	12+
A.	760	Hard	3/32"	5/32"	1/2"	112-7600	\$11.50	\$9.85
	750	Soft	3/32"	5/32"	1/2"	112-7500	39.75	33.12
В.	761	Hard	3/32"	1/4"	9/16"	112-7610	28.75	23.96
	751	Soft	3/32"	1/4"	9/16"	112-7510	13.65	11.37
C.	762*	Hard	1/8"	1/4"	9/16"	112-7620	11.25	9.37
	752*	Soft	1/8"	1/4"	9/16"	112-7520	12.60	10.50
D.	764*	Hard	1/8"	⁷ / ₁₆ "	1"	112-7640	48.60	40.50
	754*	Soft	1/8"	7/16"	1"	112-7540	55.40	46.16

^{*}Asterisked items also available on 3mm shanks.

SUPRA® "ME" Bristle End Brushes



	Bristle		Trim		Ferrule		DOZE	N Prices
	Style	Type	Shank	Length	Diameter	Item#	1-11	12+
A.	864	Hard	3/32"	1/4"	5/32"	110-8640	\$12.95	\$10.79
В.	860	Hard	3/32"	1/4"	³ / ₁₆ "	110-8600	7.25	6.04
	860 ³ / ₈	Hard	3/32"	3/8"	³ / ₁₆ "	110-8603	8.25	6.87
	8601/2	Hard	3/32"	1/2"	³ / ₁₆ "	110-8605	8.65	7.21
	850	Soft	3/32"	1/4"	3/16"	110-8500	18.35	15.29
C.	861	Hard	3/32"	3/8"	1/4"	110-8610	19.95	16.62
	851	Soft	3/32"	3/8"	1/4"	110-8510	25.95	21.62
D.	859*	Hard	1/8"	1/4"	3/16"	110-8590	7.95	6.62
	859P	Hard	1/8"	1/4"	3/16"	111-8590	10.30	8.58
E.	849*	Soft	1/8"	1/4"	3/16"	110-8490	12.95	10.79
	849P	Soft	1/8"	1/4"	3/16"	111-8490	19.00	15.83
F.	862*	Hard	1/8"	3/8"	1/4"	110-8620	21.95	18.29
G.	862P	Hard	1/8"	3/8"	1/4"	111-8620	15.45	12.87
	8621/2	Hard	1/8"	1/2"	1/4"	110-8625	15.85	13.21
	8623/4	Hard	1/8"	3/4"	1/4"	110-8627	21.60	18.00
	852	Soft	1/8"	3/8"	1/4"	110-8520	25.95	21.62
	852P	Soft	1/8"	3/8"	1/4"	111-8520	25.75	21.46
Н.	962*	Hard	1/8"	9/16"	5/16"	110-9620	20.15	16.79

Style# with "P" have plastic ferrules. All others are metal.

¹ Styles 701D and 711D each contain two rows of converging bristles ² Styles 702D and 712D each contain two rows of upright bristles

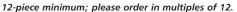
^{*}Asterisked items also available on 3mm shanks.

Felt Bobs - 1/8" Shank

For producing a high finish on molds, dies and more.

Made of the finest 100% wool for long life. Wool fibers are cleaned and scoured with no impurities – won't scratch delicate surfaces. All Felt Bobs are individually trued and balanced for precision and uniformity. Can be used with Simichrome, Diamond or other polishing compounds to produce a high finish on molds, dies and models. Use on metals, alloys, glass, plastics, wood, fiberglass and composites. Choose from hard, medium and soft grades. Made in USA.

Dia. x L	Hard Item#	Medium Item#	Soft Item#	Each
		290-1010	289-1010	
A. 3/8" x 1/2"	286-1010	290-1010	289-1010	\$1.93
B. ½" x 1"	286-1011	_		2.06
C. 1/4" x 1/4"	286-1020	290-1020	289-1020	1.83
D. 1/2" x 1/2"	286-1022	290-1022	289-1022	1.90
E. ³ / ₈ " x ¹ / ₂ "	286-1030	290-1030	289-1030	1.80
F. ¹ / ₂ " x 1"	286-1031	_	_	2.00
G. ¹ / ₂ " x ³ / ₄ "	286-1040	-	-	1.80
H. ¹ / ₂ " x ³ / ₄ "	286-1051	-	-	1.80
I. 1/2" x 1/2"	286-1060	-	-	1.80
J. 1/4" x 1/4"	286-1100	290-1100	289-1100	1.19
K. 1/4" x 3/8"	286-1101	290-1101	289-1101	1.24
L. 3/8" x 3/8"	286-1102	290-1102	289-1102	1.24
M. ³ / ₈ " x ¹ / ₂ "	286-1103	290-1103	289-1103	1.29
N. 1/2" x 1/2"	286-1104	290-1104	289-1104	1.40
O. 1/2" x 3/4"	286-1105	290-1105	289-1105	1.54
P. ¹ / ₂ " x 1"	286-1106	290-1106	289-1106	1.68
Q. 5/8" x 5/8"	286-1107	290-1107	289-1107	2.00
R. 5/8" x 1"	286-1108	290-1108	289-1108	2.04
S. 3/4" x 3/4"	286-1110	290-1110	289-1110	2.15
T. ³ / ₄ " x 1"	286-1111	-	_	2.40
U. ³ / ₄ " x 1 ¹ / ₂ "	286-1113	-	_	2.88
V. 1 " x 1 "	286-1114	290-1114	289-1114	2.88





Visit our website www.gesswein.com for our full line of polishing products

Hard Poli-Felts - 1/8" Shank

The same high quality felt as used in our Bobs. End cut at 45° angle to fit into slots. Can be shaped to your need. Mount in our Z-2X and Z-6X Reciprocating Profilers (see p. 11) and other reciprocating handpieces. Made in USA.

		Each Prices				
Style	Felt Size	Item#	1-11	12-143	144+	
61	¹ / ₄ " square x 1 ¹ / ₂ " L	288-4610	\$3.60	\$3.00	\$2.52	
62	³ ⁄ ₈ " square x 1³⁄ ₄ " L	288-4620	4.04	3.37	2.83	
63	¹ / ₂ " square x 1 ³ / ₄ " L	288-4630	4.35	3.62	3.05	





Gesswein® Diamond Compounds

All Gesswein Diamond Compounds use 100% virgin synthetic diamonds which are more consistent in shape than natural diamond. Synthetic diamond guarantees sharp even cutting action.

Feature close tolerances on particle size and distribution for consistency. The diamond concentration is specifically designed for the mold & die industry.

Available in 3 types: Standard Oil-Soluble (most popular), Water-Soluble, and Budget Oil-Soluble. Our Standard Oil-Soluble Compounds are preferred for high speed applications because the oil carrier assists in fast cutting and holds the slurry together well. Budget Oil-Soluble Compounds offer a lower price due to variations in grain size and friability. Water-Soluble Diamond

Compounds have the same diamond concentration and quality as our Standard Oil-Soluble with the added convenience of fast and easy cleanup.

Compounds with a designation "M" (in the style number) are 75% diamond concentration. "H" compounds are 100% concentration. Please note: all grades can be special ordered in L (light) 50%, M (medium) 75%, or H (heavy) 100% concentrations. Budget compounds have slightly less diamond concentration. Made in USA.

Packaged in 6-gram disposable syringes. Also available in 1 and 18 grams. Go to www.gesswein.com for more information.

Grade	Application	Approx. Micron	Mesh	Color	Syringe Size (grams)	Standard Oil-Soluble Item#	Water- Soluble Item#	Each	Budget Oil-Soluble Item#	Each
A. 1/2-9M	Supreme finish	0–1	60,000	White	6	216-2045	_	\$13.20	_	_
B. 1-8M	Super finish	0–2	14,000	lvory	6	216-2050	216-9064	11.00	216-9100	\$8.80
C. 3-7M	Very high finish	2–4	8,000	Yellow	6	216-2100	216-9066	21.45	216-9102	17.15
D. 6-48M	Mirror finish	4–8	3,000	Orange	6	216-2150	216-9068	29.15	216-9104	23.30
E. 9-6M	High finish	8–12	1,800	Green	6	216-2200	216-9070	29.15	216-9106	23.30
F. 15-5M	Fine finish	12–22	1,200	Blue	6	216-2250	216-9072	29.15	216-9108	23.30
G. 30-4H	Fast lapping	22–36	600	Red	6	216-2300	216-9074	45.65	216-9110	36.50
H. 45-3H	Medium cutting	36–54	325	Brown	6	216-2350	-	45.65	-	
60-2H	Fast cutting	_	230	Purple	6	216-2400	-	45.65	-	
90-1H	Coarse cutting	_	170	Gray	6	216-2450	_	45.65	_	_
120H	Fast grinding	_	120	Black	6	216-2500	_	45.65	_	



Sets of 1-Gram Syringes

Convenient sets give you a wide range of grits for lapping and polishing applications. Oil-Soluble Set contains 1-gram syringes of 3-7M, 9-6M, 30-4H and 60-2H and a 3 /4 oz. bottle of Lubricant/ Thinner (see p. 37). Water-Soluble Set contains 1-gram syringes of 3-7M, 9-6M, 15-5M and 30-4H and a 3 /4 oz. bottle of Lubricant/Thinner (see p. 37).

Description	ltem#	Each
Oil-Soluble Set of 4	216-9500	\$24.60
Water-Soluble Set of 4	216-9200	24.60



Wood Bobs - 1/8" Shank

Natural wood bobs for intermediate finishing with rotary tools. Can be shaped for contours. Use dark-colored hard bobs with 15 micron or coarser diamond compounds, light-colored soft bobs with 15 micron or finer. Sold in packages of 10 or in a 12-piece set.

		Hard	Soft	
Description	Size	Item#	Item#	Pkg. of 10
Ball	³ /8" dia.	825-0618	825-0638	\$33.00
Cylinder	¹ / ₄ " dia. x ⁵ / ₈ "L	825-0605	825-0625	31.95
	³ / ₈ " dia. x ³ / ₄ "L	825-0607	825-0627	36.65
Flame	³ /8" dia. x ⁵ /8"L	825-0610	825-0630	33.00
	³ / ₈ " dia. x 1 ¹ / ₄ "L	825-0612	825-0632	36.65
	¹ / ₂ " dia. x ³ / ₄ "L	825-0614	825-0634	36.65
12-Piece Set (one of each)		825-	0640	\$37.55

SUPRA® Diamond Compounds

Soluble in both oil and water with extra-heavy concentration of 100% virgin synthetic diamond for sharp, even cutting action. Graded to closer tolerances than those dictated by nationally recognized standards. Provide much faster stock removal than traditional diamond compounds. Sold in unique 5-gram Precision Applikators, which afford finer control than ordinary syringes, minimizing waste and contamination.

End Use	Approx. Micron	Mesh	Color	ltem#	Each
Super finish	0–2	14,000	Ivory	217-0010	\$13.50
Very high finish	2–4	8,000	Yellow	217-0015	22.30
Mirror finish	4–8	3,000	Orange	217-0020	25.30
High finish	6–12	1,800	Green	217-0025	26.50
Fine finish	10–20	1,200	Blue	217-0030	26.50
Fast lapping	20–40	600	Red	217-0035	35.40
	Super finish Very high finish Mirror finish High finish Fine finish	End Use Micron Super finish 0–2 Very high finish 2–4 Mirror finish 4–8 High finish 6–12 Fine finish 10–20	End Use Micron Mesh Super finish 0-2 14,000 Very high finish 2-4 8,000 Mirror finish 4-8 3,000 High finish 6-12 1,800 Fine finish 10-20 1,200	End UseMicronMeshColorSuper finish0-214,000IvoryVery high finish2-48,000YellowMirror finish4-83,000OrangeHigh finish6-121,800GreenFine finish10-201,200Blue	End Use Micron Mesh Color Item# Super finish 0-2 14,000 Ivory 217-0010 Very high finish 2-4 8,000 Yellow 217-0015 Mirror finish 4-8 3,000 Orange 217-0020 High finish 6-12 1,800 Green 217-0025 Fine finish 10-20 1,200 Blue 217-0030



Dial controlled applikator

Lubricant/Thinner

For all brands of diamond compounds. Lubricants keep the diamond abrasive in suspension, allowing the compound to cut at peak performance. When added to Diamond Compound, lubricant thins out the mixture, creating a slurry and extending the compound.

Available in two formulations: Oil-Soluble and Water-Soluble and in a variety of sizes, including reusable squeeze and spray bottles for moistening felts prior to diamond compound application.

Description	Size	ltem#	Each
A. Oil-Soluble Lubricant/Thinner	³ / ₄ oz. Squeeze Bottle	825-1295	\$2.50
В.	4 oz. Spray Bottle	825-1303	4.95
C.	8 oz. Bottle	825-1300	6.85
D.	32 oz. Bottle	825-1305	19.60
Water-Soluble Lubricant/Thinner	³ / ₄ oz. Squeeze Bottle	825-1290	2.50
	4 oz. Spray Bottle	825-1310	4.95
	8 oz. Bottle	825-1315	6.85
	32 oz. Bottle	825-1320	19.60
E. Empty 4 oz. Spray Bottle		811-2460	2.15



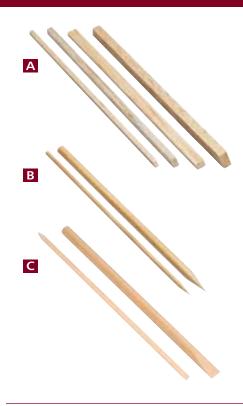
Simichrome Polish®

One of the finest all-metal polishes in the world. Produces an ultra-high finish. Ideal for chrome, steel, brass, gold, silver and more. Use with a felt bob or soft cloth to impart a brilliant luster. Leaves a protective film. Recommended for use after diamond compound.

Description	ltem#	Each
50g Tube	218-2050	\$11.75
250g Tin	218-2150	35.00
1,000g Tin	218-2200	85.30
50g Tubes, Box of 24	218-2100	218.00



Polishing Aluminum? Visit our website to see our Supra Diamond Compounds for Aluminum. www.gesswein.com



Very Soft Sticks

Made of select balsa wood with one shaped end. Use by hand, with reciprocating or rotary tools for final finishing with diamond and other compounds. Can be dressed with a knife or file. Measure 6" long.

			PKG	. of 5
Shape	Size	Item#	1-9	10+
A. Rectangular, Beveled	1/8" x 1/8"	825-0530	\$7.10	\$5.68
	³ /16" x ³ /16"	825-0532	8.55	6.84
	1/8" x 1/4"	825-0534	8.55	6.84
	1/4" x 1/4"	825-0536	8.55	6.84

Soft Sticks

Made of select white birch with one shaped end. Use by hand, with reciprocating or rotary tools for intermediate to final finishing with diamond and other compounds. Measure 6" long.

			PKG	. of 25
Shape	Diameter	Item#	1-3	4+
B. Round, Pointed	1/8"	825-0551	\$8.75	\$6.56
	1/4"	825-0557	10.75	8.06
C. Round, Double-beveled	1/8"	825-0541	8.75	6.56
	1/4"	825-0547	9.95	7.46





Rockwood Sticks

Very hard, laminated sticks that retain their shape well. Use by hand, with reciprocating or rotary tools for initial finishing with diamond and other compounds. Can be dressed with a knife or file. Measure 6" long with blunt ends (except #825-0005, which has one pointed end, and #825-0045, which has one beveled end).

			Ea	ch Prices
Shape	Size	ltem#	1-11	12+
Round	¹ / ₈ " w/point	825-0005	\$3.33	\$2.77
A.	³ /16"	825-0010*	4.85	4.04
	1/4"	825-0020*	5.95	4.96
	3/8"	825-0030	9.79	8.16
	1/2"	825-0040*	14.29	11.91
Square	¹ / ₈ " w/bevel	825-0045	2.98	2.48
В.	1/4"	825-0060	4.85	4.04
C. Rectangular	¹ /8" x ¹ /4"	825-0050*	3.95	3.29
	1/4" x 3/8""	825-0070*	5.89	4.91
	1/ ₄ " x 1/ ₂ "	825-0080*	6.55	5.46
	⁵ / ₁₆ " x 1"	825-0110	11.45	9.54
Set 1R, 18 pieces	(three of			
each asterisked n	umber)	825-0300	59.50	-
Set 2R, 27 pieces	(three of each			
size except 1/8" so	quare and round)	825-0400	99.00	_

Weldmax 350 Microwelder

Increase mold life and reduce repair costs dramatically. This powerful microwelder allows you to repair all forms of minor mold damage quickly and easily. Uses short, controlled amperage discharges to weld metal powder, sheet or wire to molds. Produces strong, homogeneous welds, even under difficult working conditions. Made in Japan.

Industrial Uses:

Welds all steels and stainless steels, as well as other ferrous metals. Will not weld aluminum. Suitable for use on molds and dies for plastics and rubber, die-casting molds and compression molds. Not recommended for use on press dies.

Specifications:

Input Voltage: 120V or 230V AC, 50/60Hz

Consumable Power: 1,500VA

Control System: SCR switching system
Timer: Up to 200 pulses per minute

Output Power: 1200W Output Voltage: 0-10V

Output Current: 0-1,600A standard; 0-700A precision

Auto Function: Current discharge control for tack or continuous welding

Dimensions: 6-1/2"W x 16-3/4"D x 15-1/8"H

(165 x 425 x 385mm)

Net Weight: 39.5 lbs. (18kg)

Description	Item#	Each
Weldmax 350, 120V	511-0010	\$7,850.00
Weldmax 350, 230V	511-0015	7,850.00



Accessory Set – Included with Weldmax 350

Guarantee



PUK 3s High-Precision Arc Welder

The PUK precision welding equipment puts a whole host of possible applications at your fingertips. Welding on fittings, adding metal to a work piece, joining items prior to soldering, fixing porosity or welding seams are just a few examples. Made in Germany.

Features:

- High frequency pulse welding
- Adding metal or welding wire is no problem with the PUK
- "Clean" welds with minimum gas consumption

PUK 3s Upgrades:

- High-frequency pulse welding for extra power when working with silver alloys
- Expanded system memory with five different programmable slots
- Optional foot switch for manual triggering

Mezzo Welding Microscope:

- Stereo microscope with 10x magnification + built-in LED lamp
- Automatically switches from clear setting (Luminescence DIN3) to dark setting (Obscurity DIN11) protecting eyes from the glare of the electric arc

Specifications: 3s Professional Ss Professional Plus Power Range 10–240A 9–320A

Power Range 10–240A 9–320*A*Power Settings, Std./Micro 10/10 12/10

Impulse Range, Std./Micro 4–24ms/4–8ms 4–30ms/4–12ms

Impulse Settings 5 9
Welding Speed 0.8 sec. 9.8 sec.

Inert Gas Requires argon gas tank Requires argon gas tank Electrical 110V, 50/60Hz 110V, 50/60Hz

Dimensions

Controller 10"W x 11"D x 6"H 10"W x 11"D x 6"H

Handpiece 5" long 5" long

Description	Item#	Each
PUK 3s Pro	830-0992	\$4,745.00
PUK 3s Professional Plus with Mezzo	830-0991	5,245.00
Optional Foot Switch	830-0993	99.00
Optional Argon Gas Regulator	830-0974	159.00
Replacement Electrode Tips, set of 10	830-0978	47.25







L&R Quantrex® Ultrasonic Cleaners Powerful systems for effective cleaning!

Quickly removes dirt, sludge and polishing compounds from tools and parts. Ultrasonic energy reaches into the tiniest crevices to loosen and draw dirt, grease and other contaminents, Use water and the proper cleaning solution for your most difficult jobs. Each Quantrex Machine comes standard with increased power...Strength you can see as soon as you turn the unit on. Made in USA.

Features:

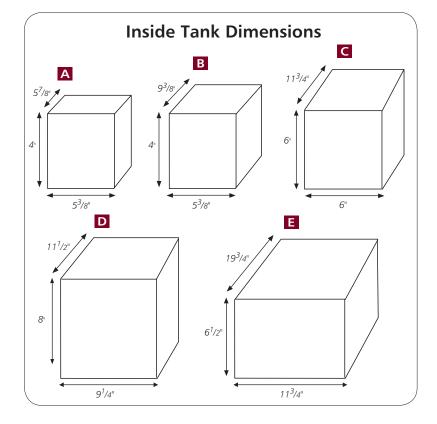
- Includes integral heating element at a preset temperature of approximately 160°F
- Durable vinyl-clad steel housing
- Stainless steel tank and lid
- 60-minute timer and drain
- EMI (electromagnetic interference)
- Premium system components and contemporary design
- Provide quiet yet strong 43 kHz cleaning action
- Backed by a 2-1/2 year manufacturer's warranty—the most comprehensive in the industry
- Available in 110V or 220V comprehensive in the industry



Model 140



Model 210



	Capacity	Dimensions	$(L \times W \times H)$		
Model	(qts.)	Overall	Tank	Item#	Each
A. 90	2	7" x 6 ³ /8" x 8 ³ /4"	5 ⁷ /8" x 5 ³ /8" x 4"	851-5070	\$279.50
B. 140	33/8	10 ¹ / ₄ " x 6 ¹ / ₂ " x 8 ¹ / ₄ "	9 ³ /8" x 5 ³ /8" x 4"	851-5072	429.50
C. 210	6	12 ³ / ₄ " x 7" x 11"	11 ³ / ₄ " x 6" x 6"	851-5074	785.00
D. 360	14.5	12 ³ / ₄ " x 10 ¹ / ₂ " x 14 ¹ / ₄ "	11½" x 9½" x 8"	851-5094	1,270.00
E. 650	26	21 ³ / ₄ " x 13 ³ / ₄ " x 13 ¹ / ₂ "	19 ³ / ₄ " x 11 ³ / ₄ " x 6 ¹ / ₂ "	851-5077	2,175.00



Dino-Lite Digital Microscopes

Affordable, compact digital microscopes for a wide range of assembly, repair, inspection and documentation applications.

Features

- Digital camera with powerful magnification capabilities (up to 220X) and remarkable color resolution
- DinoCapture imaging software for capturing both pictures and videos of workpieces
- Micro-Touch trigger mechanism for shooting without a mouse
- 8 ultra-bright LEDs for strong yet clean lighting
- · Lightweight design for portability
- Includes USB 2.0 cable for fast data transfer to your PC or Mac
- Backed by a one-year warranty
- CE approved



Specifications:

Resolution: 1.3 MP (1280 x 1024)

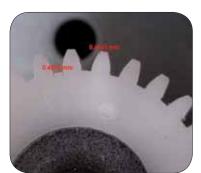
Illumination: 8 white LEDs Frame Rate: Up to 30fps

File Format: JPEG, BMP, AVI

Dimensions: $1^{1}/_{4}$ "D x 4"L

Computer Requirements:

- Intel Pentium 4 PC with 1.5 GHz processor running Windows 98 SE or later or Mac running OS X 10.2 or later
- 1512 MB RAM
- CD-ROM drive
- 16-bit color monitor
- USB 2.0 port



Images taken with Dino-Lite

All **413 models** also include measuring software that allows you to input a magnification value from the microscope zoom control and then measure length, multiple angles, and circular functions.

AD4113TL boasts enhanced working distance (up to 4" more distance between lens and subject) and removable nose cone, which can be swapped with the optional 90° view adapter to look into tight areas with ease. Also includes new locking magnification dial.

The economical **AM4012N Analog** model plugs directly into a TV/monitor via a component style plug. Does not require the use of a computer and allows a live image feed, however does not capture photos, video, or measurements. Resolution is 510 x 496 pixels, and has 8 LED's powered by AC adapter (included).

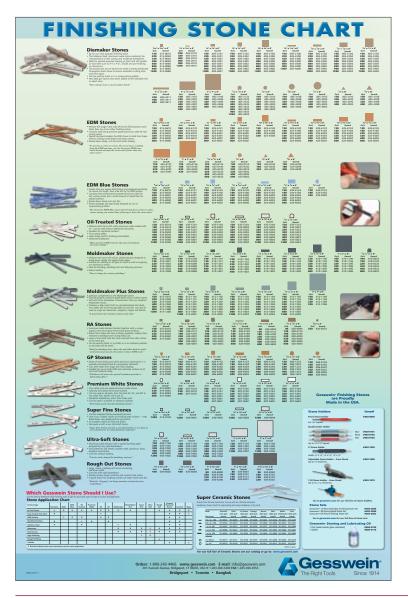
Model	Zoom	Measuring* Software	Polarizing** Filter	Enhanced*** Working Distance	ltem#	Each
AM411T	10-220X	No	No	No	810-0086	\$329.00
AM413T	10-220X	Yes	No	No	810-0094	399.00
AD4113TL	10-92X	Yes	No	Yes	810-0092	489.00
AM413ZTS	10-220X	Yes	Yes	No	810-0099	499.00
AM4012N Analog	10-200X	No	No	No	810-0097	249.00
Dino-Light Gooseneck Stand					810-0090	49.00
Dino-Light Tabletop Stand					810-0091	99.00
90° View Adapter for AD413TL					810-0093	59.00

^{*}Allows point-to-point, curvilinear and angular measurements with accuracy up to 0.001".

^{**}Allows adjustable glare reduction, useful in many close-up applications.

^{***}Allows up to 4" more distance between lens and subject.





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