

INDUSTRIAL BRUSHES & FLEX-HONE® TOOLS
PRODUCT CATALOG



BRUSH RESEARCH MANUFACTURING CO., INC.

Brush Research Manufacturing has a long history of solving difficult finishing problems with brushing technology. Established in 1958, our tradition of research, innovation and manufacturing excellence has helped solve problems in the sophisticated environments of nuclear energy, aerospace and computer technology as well as industrial applications.

BRM has long been a leader in the art and science of abrasive surface finishing culminating in the patented Flex-Hone® Tool. **BRM** was one of the first companies to advocate the critical need for finer surface finishes to optimize machine performance.

Today **BRM** remains at the forefront of abrasive finishing technology. Our commitment to the advancement of surface finishing remains as strong as ever and we are constantly experimenting with new materials and applications.

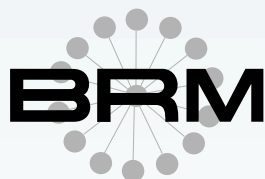
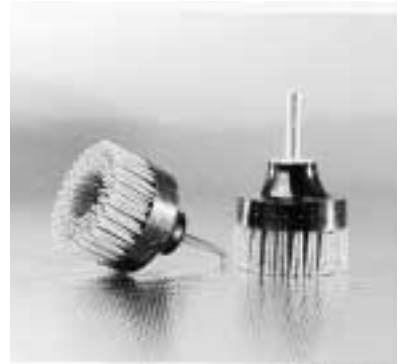
As a full line manufacturer of power brushes, twisted wire brushes and the Flex-Hone® Tool we stand ready to assist you in finding the best solution to your finishing needs.

Our extensive network of both domestic and foreign stocking distributors and our trained staff of customer service specialists assures you of instant access to world wide solutions tailored to your individual needs.



CATALOG No.19

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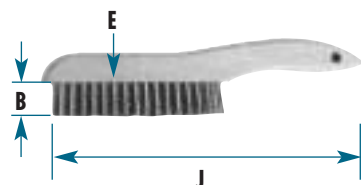
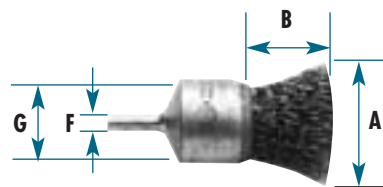
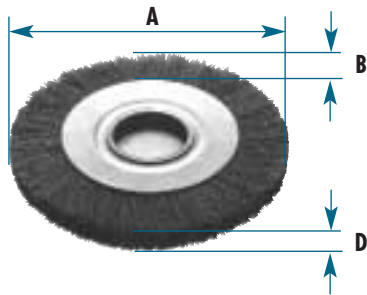


BRUSH RESEARCH MANUFACTURING CO., INC.

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- A. Outside Brush Diameter
- B. Trim Length
- C. Arbor Hole
- D. Face Width
- E. Number of Rows
- F. Shank Diameter
- G. Cup Diameter
- H. Brush Part Length
- I. Stem Diameter
- J. Overall Length



► Flex-Hone® Tools

The Flex-Hone® tool is always used in an oversized condition. Our sizes are listed by the nominal bore in which the hone is intended to be used.

Example:
GBD-4" 120 S/C - GBD=style, 4"=Diameter,
120=Grit Size, S/C=Silicon Carbide Abrasive

The Flex-Hone® Tool is not available for export.

The Flex-Hone® Tool is patented and the trademark is registered in all major trading countries of the world.

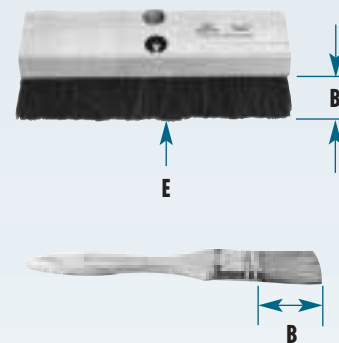
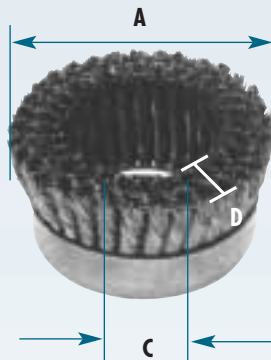
Display Packaged Items

As some of the items shown on the Display Pages are shown elsewhere please specify Display Package.

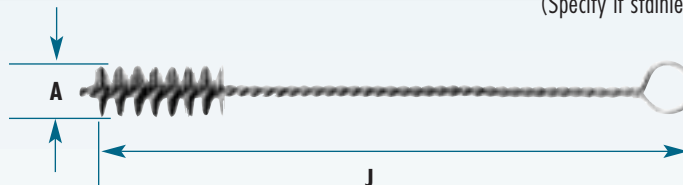
Power Brushes

Order by Catalog Number and Specify Wire Size and Arbor Hole, for example:
BTS-6 .014 1/2" AH
add "S" for stainless steel:
BTS-6S .014SS 1/2" AH

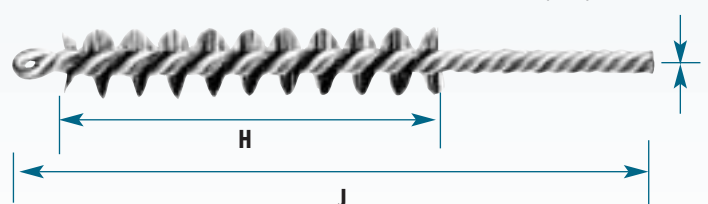
► Terminology



Single Stem - Single Spiral
(Specify if stainless stem desired)



Double Stem - Double or Single Spiral
(Specify if stainless stem desired)



If an arbor, keyway or threaded nut other than those shown is required, please contact factory for availability.

Twisted-in Wire Brushes

Order by Catalog Number and if required please specify stem type, i.e., cut end, ring handle, pipe nipple, wood handle, for example:

For plastic handle 85-N-500WH
For ring handle 85-N-500RH

Specials

Any item which is not shown in the Catalog will be considered a Special Order item. To order such an item:

1. Describe item fully
2. Furnish complete, detailed specifications.
3. Send sample or blueprint.

Please see our Price List for Terms and Conditions of Sale.

► Power Brush Safety Requirements

Warning - In normal power brushing operations, the material being removed, such as burrs, scale, dirt, weld slag, or other residue, will fly off the brush with considerable force along with brush filaments which break off due to fatigue.

The potential for serious injury exists for both the brush operator and others in the work area (possible 50 or more feet from the brush). To protect against this hazard, wear safety goggles or full face shields worn over safety glasses with side shields, along with protective clothing.

You must follow all operator and safety instructions, as well as all common safety practices which reduce the likelihood of physical injury, or reduce its severity.

Summary-Power Brush Safety Requirements

Safety Goggles - Safety goggles or full face shields worn over safety glasses with side shields must be worn by ALL operators and others in the area of power brush operations. Comply with the requirements of ANS Z87.1-1979 "Occupational Eye and Face Protection."

Guards - Keep all machine guards in place.

Speeds - Observe all speed restrictions indicated on brushes, containers, labels, or printed in pertinent literature. "MSFS" means Maximum Safe Free Speed (RPM) - spinning free with no work applied. For reasons of safety "MSFS" should not be exceeded under any circumstances.

Safety Standard - Comply with the Safety Standards of the Industrial Division of the American Brush Manufacturers Association and the American National Standards Institute ANSI B165.1 - 1985 - Safety Requirements - Power Brushes and ANSI B165.2 - 1982 "Safety Requirements - Power Brushes - Wood, Plastic, or Composition Hubs."

Protective Equipment - Appropriate protective clothing and equipment must be used where there is a possibility of injury that can be prevented by such clothing or equipment.

Warning! Failure to observe safety precautions may result in injury.

Brush Usage Recommendations

Pressure - Avoid excessive pressure when using a power brush. Excessive pressure causes over-bending of the filaments and heat build up resulting in filament breakage, rapid dulling, and reduced brush life. Instead of greater pressure on a brush, it is suggested that you

try: 1) a brush with a more aggressive cutting action (increased wire size decrease filament length, change to a different brush type, i.e., knot type instead of crimped wire type), or 2) higher speed (increased R.P.M., increased brush diameter.)

Important Note: Never exceed the recommended Maximum Safe Free Speed R.P.M. (MSFS) rating of the brush.

Brushing Problems - Do Not Allow Unsafe Conditions To Continue. Occasionally, due to worn bearings, a bent spindle, an unusual application, operator abuse, or inappropriate use, a brush may fail. A brush which is not received in acceptable condition for trouble-free operation may also fail. Do not use or continue to use a failed brush or one which is functioning improperly (i.e., throwing filaments, out-of-balance etc.) as this increases the possibility for further brush failure and hazard of injury. The cause of the failure should be evaluated and corrected.

This information is based on the collective experience of the ABMA Industrial Division members and provided solely as a public service for the guidance of the users of the members' products. These recommendations are not necessarily complete with respect to any particular application and common sense safety considerations should be adhered to generally. Any applicable federal, state, local law or regulation, must be strictly adhered to, and is controlling over any recommendation contained herein.

Safety Instructions: Flex-Hone® and Twisted-In-Wire Brushes

The Flex-Hones and Twisted-In-Wire brushes, used under power, shall be securely held in a collet, chuck or similar holding device.

The operator shall secure the unit being honed or brushed and position all guards before starting the tool. The arrangement of the workplace shall ensure rotation of the brush on the true centerline to avoid deflection that may instantly multiply to destructive bending.

The shank of a Twisted-In-Wire brush and/or Flex-Hone®, because of its basic construction, is not inherently as strong as the shank on most other brushes.

Therefore, it is even more important that the tool length be no longer than necessary to perform the work, and that other conditions of use avoid load applications and speed of rotation that will cause the shank to deflect, and therefore bend, instantly resulting in total destruction of the brush and creating an unsafe condition for the operator.

Safety First:

Failure to observe any requirements shown in the safety section will create safety hazards and can cause injury.

Correct

Tips doing the work



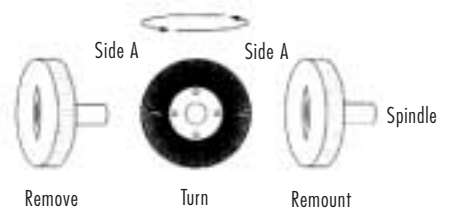
Incorrect

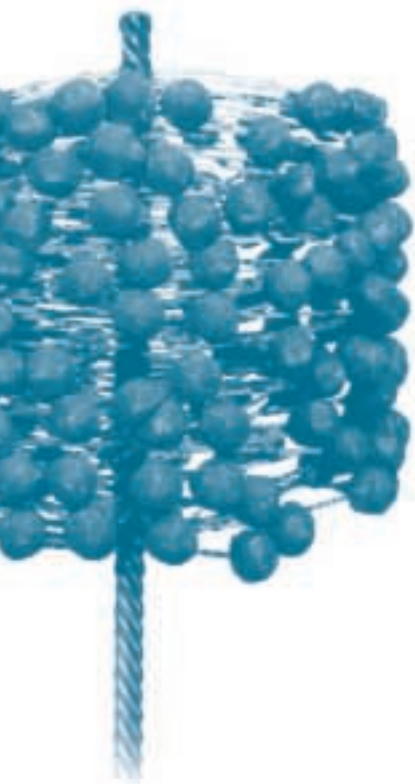
Excessive pressure can cause wire breakage



Self-Sharpening

When using wire wheel brushes, periodically reverse the direction of rotation to take advantage of the self-sharpening action that will result. This may be accomplished by removing the brush from the spindle and turning it side for side, and remounting securely.





► Horsepower Required To Drive Brushes

Four Common Factors Governing the Horsepower Necessary to Drive a Power Brush

1. Brushing pressure required.
2. Resistance between work surface and brush (trim length).
3. Speed of the brush.
4. Brush face width.

Horsepower Approximation Guide

(Based upon the medium brushing action for 1" brush face)

Brush Dia.	Motor Size	RPM
4"	1/4 H.P.	3450
6"	1/2 H.P.	3450
8"	3/4 H.P.	3450
10"	1 H.P.	1750
12"	1 H.P.	1750
15"	1 1/2 H.P.	1750

Wider face brushes require additional horsepower dependent upon the relative brush load. Long trim brushes can usually be operated with less horsepower than short trim brushes.

► Recommended Surface Speeds for Brushing Applications

Application	Surface Ft./Minute
Removing Burrs	5,500 to 7,500
Removing Scale	7,500 to 10,000
Cleaning Welds	7,200 to 9,400
Edging Blending	4,700 to 7,500
Cleaning (dry)	4,000 to 5,000
Cleaning (wet)	1,900 to 4,000
Surface Polishing	6,400 to 8,000
Surface Buffing	8,000 to 10,000

Table of Surface Speeds (Peripheral Speed in Ft./Min.)

RPM	1" Dia.	2" Dia.	3" Dia.	4" Dia.	6" Dia.	7" Dia.	8" Dia.	10" Dia.	12" Dia.	14" Dia.	15" Dia.
900	236	471	707	942	1414	1649	1885	2356	2827	3299	3534
1150	301	602	903	1204	1806	2107	2409	3011	3613	4215	4516
1200	314	628	942	1257	1885	2199	2513	3142	3770	4398	4712
1500	393	785	1178	1571	2356	2749	3142	3927	4712	5498	5891
1750	458	916	1374	1833	2749	3207	3665	4582	5498	6414	6872
2000	524	1047	1571	2094	3142	3665	4189	5236	6283	7330	7854
2400	628	1257	1885	2513	3770	4398	5027	6283	7540	8796	9425
2800	733	1466	2199	2932	4398	5131	5864	7330	8796	10263	10996
3000	785	1571	2356	3142	4712	5498	6283	7854	9425	10996	11781
3200	838	1676	2513	3351	5027	5864	6702	8378	10053	11729	12566
3400	890	1780	2670	3560	5341	6231	7121	8901	10681	12462	13352
3750	982	1964	2945	3927	5891	6872	7854	9818	11781	13745	
4000	1047	2094	3142	4189	6283	7330	8378	10472	12566		
4500	1178	2536	3534	4712	7069	8247	9425	11781	14137		
5000	1309	2618	3927	5236	7854	9163	10472	13090			
5400	1414	2827	4241	5655	8482	9896	11310				
6000	1571	3142	4712	6283	9425	10996	12566				

► Brushing Action

There are many variables in Power Brushing conditions. In many cases, one or more Power Brushes may accomplish the same results; however, if one brush does not accomplish the desired results, follow the suggestions below:

Desired Change in Results

Suggested Change in Brush

Faster Action

Run brush faster
Use heavier wire or filament
Use brush with shorter trim length
Use larger diameter brush

Finer Finish

Use finer wire or filament
Try tampico or abrasive nylon filament brush

Reach Irregular Surface Area

Use Brush with longer trim length for greater flexibility

Longer Life

Use finer wire and longer trim

Remove Burr Instead Of Roughing or Preening It

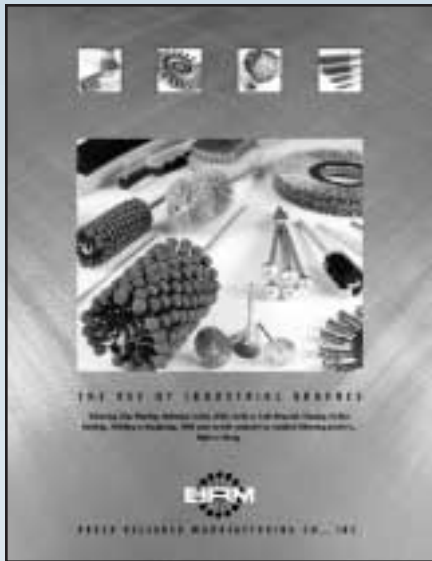
Increase brush speed
Use brush with shorter trim
Check brushing pressure to determine if tips are cutting not wiping.

Note: The speed at which the brush rotates is an extremely important factor. (See Table of Surface Speeds).

Portable Tools

The maximum recommended diameter brush to use with electric or air portable tools is 6".

► The Following Booklets Are Available On Requests At No charge



“The Use of Industrial Brushes”

The most informative literature available on the use of industrial brushes for deburring, edge blending, edge radiusing, oxide or scale removal, weld cleaning, surface finishing, polishing or roughening.



Brush Research’s “Gold Booklet”

Our first booklet on some common practices in Cylinder Boring, Honing and Wall Finishing. An educational comparison of various rigid honed and Flex-Honed cylinder wall surfaces.



“A Study of Cylinder-Wall Micro-Structure”

An extensive study using a Scanning Electron Microscope to examine and compare the results of cylinder honing using rigid hones versus the Flex-Hone® Tool. Truly an exposé of what the honed cylinder wall surface should and should not look like. Three different studies are presented USA, UK and France for comparison.



“The Necessity Of A Plateaued Cylinder Wall Finish”

A detailed presentation of several test run engines with performance results of lower blow-by, increased compression, less ring and cylinder wall wear with the Flex-Hone Process.

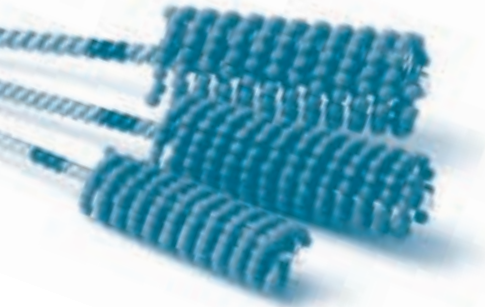


FLEX-HONE®

The Flex-Hone® Tool is protected by
USA Patent Numbers 3384915, 3871139,
5211725, 5353553
US & Foreign Patents Allowed or Pending

► For Any Type And Size of Cylinder

The Flex-Hone® Process (Super finishing) produces a controlled surface condition unobtainable by any other method. It involves finish, geometry and metallurgical structure. A high percentage plateau free of cut, torn and folded metal.



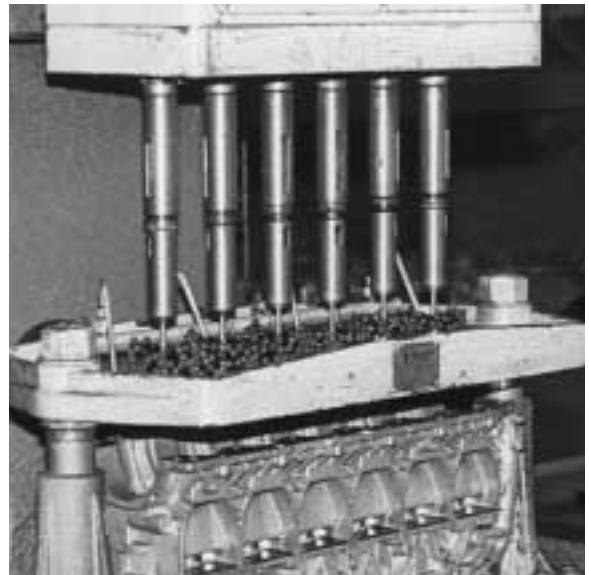
A resilient, flexible, honing tool with a soft cutting action. The abrasive (points) globules each have independent suspension that assures the Flex-Hone® to be self-centering, self aligning to the bore, and self-compensating for wear.

Specifically, it is a low-temperature abrading process that exposes the undisturbed base metal structure to produce a long wearing surface. It is a method of developing a surface on a metal part which is optically smooth and metallurgically free of any fragmented, amorphous or smeared metal from previous operations. It is accomplished at a low pressure where the "stones" float.

See and read the various booklets of actual tests covering almost every situation that will ensure a superior performance in situations depending on surface finish.

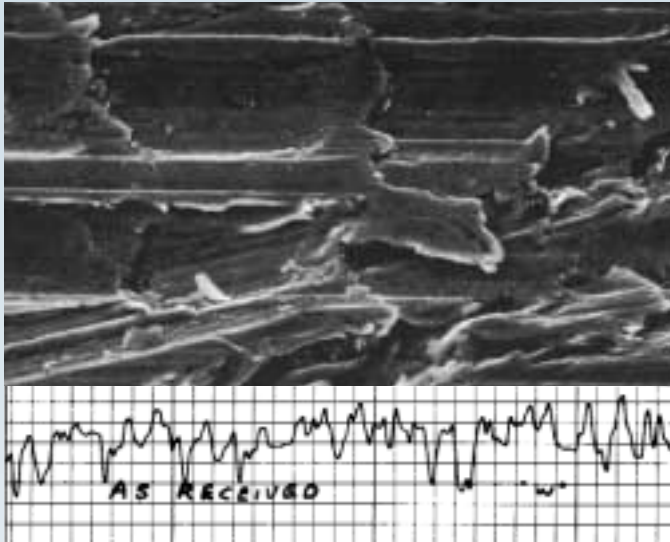
The particular type of Flex-Hone® crosshatch is extremely efficient in providing a multiplicity of oil grooves or valleys for oil retention as opposed to the often unidirectional or uneven valleys common to the conventional type rigid hone.

A crosshatch that usually remains as the cylinder wall has been wear-reduced by the Flex-Hone®.



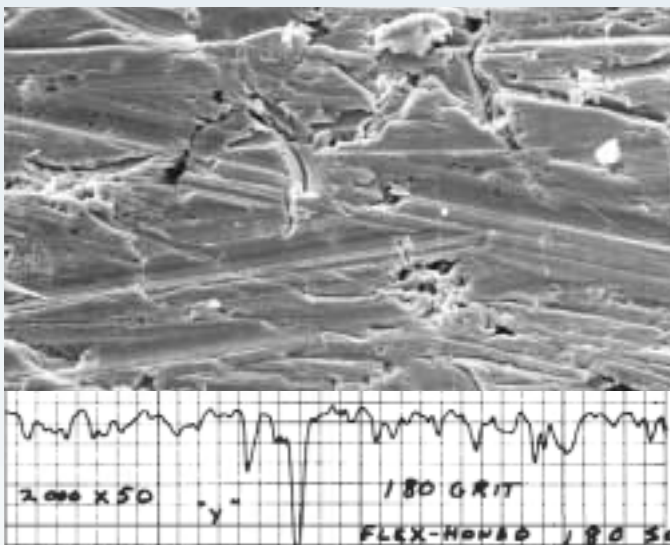
A: As received, rigid honed by factory rework section.

"W" photo at 1000x. Cross-hatch has majority of cut in one direction. Smeared, torn, jagged and folded metal on surface. Smeared metal loosely attached to surface. Very peaky profile of finish. 40 to 50u" (1.02 to 1.27um) finish. Cylinder #B-1.



B: After Flex-Hone®

180 grit silicon carbide, "Y" photo at 1000x. Uniform cross-hatch pattern. Clean open appearance with smeared, folded and torn metal removed. Excellent semi-plateaued profile. Small dust particles visible on surface in "Y" photo. 20 to 25U" (.51 to .63 um) finish. Cylinder #B-1.



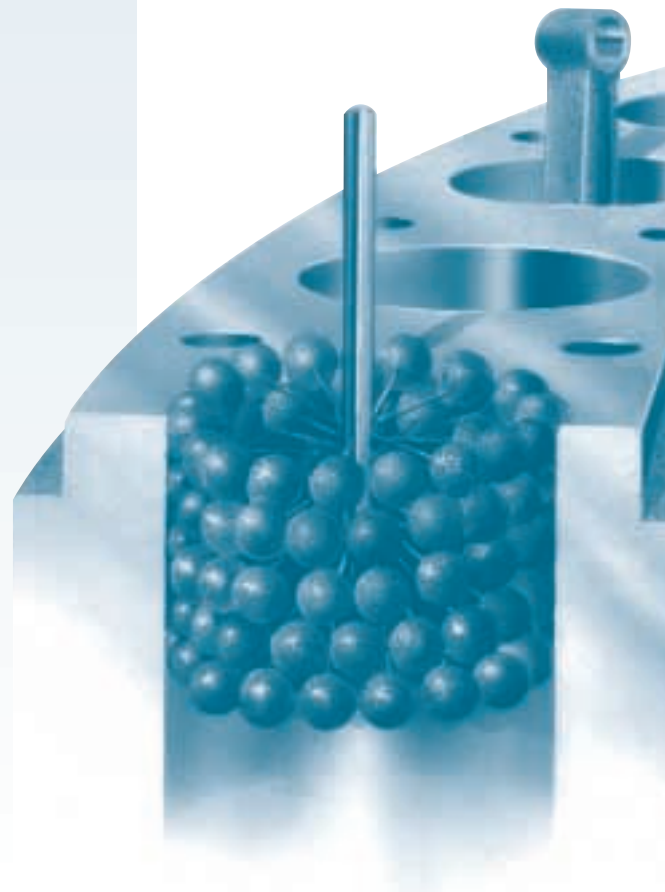
If Your Specifications Call For:

- Developing a surface plateau of over 60%,
- Producing an oil holding cross-hatch pattern,
- Reducing Ra, Rpk and Rvk values,
- Increased bearing area ...

If You Want benefits of:

- Lowered oil consumption,
- Less blow-by,
- Less friction,
- Improved sealing surface ...

Then Flex-Hone® it!



Typical Applications Include:

- Air Compressors
- Hydraulic Ram Cylinders
- Hydraulic Valve Bodies & Valve Guides
- Hydraulic Motor Bodies
- Pneumatic Cylinders
- Surface finishing of Boiler Components
- Compressed Air Tool Bodies
- Brake Cylinders (Wheel)
- Clutch and Brake Master Cylinders
- Finishing of Stainless Steel Tubing
- Brake Rotors
- Engine Cylinders and Block Liners

The Flex-Hone® tool is always used in an oversized condition. Our sizes are listed by the nominal bore in which the hone is intended to be used.

► Abrasive Options

Abrasive Types	Grit Sizes										
	20	40	60	80	120	180	240	320	400	600	800
SC=Silicon Carbide	X	X	X	X	STANDARD				X	X	X
AO=Aluminum Oxide	X	X	X	X	X	X	X	X	X	X	X
BC=Boron Carbide	X	X	X	X	X	X	X	X	X	X	X
WC=Tungsten Carbide (either 100% or 50/50)	X	X	X	X	X	X	X	X			
Z Grain - Alumina Zirconia No. 1525 (25% Zirconia/75% Alumina)			X	X	X	X					
Z Grain - Alumina Zirconia No. 1549 (40% Zirconia/60% Alumina)					X	X	X	X			
Levigated Alumina											

Available in extra fine grit only

► Brake Cylinders, Hydraulics, Valve Guides

4mm - 3/16" are 6" OAL
Balance 8" OAL

Catalog Number	Catalog Number	Catalog Number
BC 4mm (.157")	BC 1/2" (12.7 mm)	BC 1 5/8" (41 mm)
BC 4.5mm (.177")	BC 14mm (.552")	BC 1 3/4" (45 mm)
BC 3/16" (4.75mm)	BC 5/8" (16 mm)	BC 1 7/8" (48 mm)
BC 5mm (.197")	BC 18mm (.709")	BC 2" (51 mm)
BC 5.5mm (.217")	BC 3/4" (19 mm)	BC 2 1/8" (54 mm)
BC 6.4mm (.250")	BC 20mm (.787")	BC 2 1/4" (57 mm)
BC 7mm (.276")	BC 7/8" (22 mm)	BC 2 3/8" (60 mm)
BC 8mm (.315")	BC 1 5/16" (23.8 mm)	BC 2 1/2" (64 mm)
BC 9mm (.354")	BC 1" (25.4 mm)	BC 2 5/8" (67 mm)
BC 9.5mm (.375")	BC 1 1/8" (29 mm)	BC 2 3/4" (70 mm)
BC 10mm (.394")	BC 1 1/4" (31.8 mm)	BC 2 7/8" (73 mm)
BC 11mm (.433")	BC 1 3/8" (35 mm)	BC 3" (76 mm)
BC 12mm (.472")	BC 1 1/2" (38 mm)	

► Disc Brakes

5" OAL

Catalog Number	Catalog Number
DBC 1 1/2" (38 mm)	DBC 2 1/2" (64 mm)
DBC 1 3/4" (45 mm)	DBC 2 3/4" (70 mm)
DBC 2 1/8" (54 mm)	DBC 3 1/8" (79 mm)



► Heavy Duty

Hex Shaft 3/4" OAL

Catalog Number 3" Core (1/2" Hex Shaft)

GBDH 8"	(203 mm)
GBD 8 1/2"	(216 mm)
GBD 9"	(228 mm)
GBD 9 1/2"	(241 mm)
GBD 10"	(254 mm)

4" Core (1/2" Hex Shaft)

GBD 10 1/2"	(267 mm)
GBD 11"	(280 mm)
GBD 11 1/2"	(292 mm)
GBD 12"	(305 mm)

Catalog Number 5" Core (5/8" Hex-Shaft)

GBD 12 1/2"	(318 mm)
GBD 13"	(330 mm)
GBD 13 1/2"	(344 mm)
GBD 14"	(355 mm)

6" Core (5/8" Hex-Shaft)

GBD 15"	(381 mm)
GBD 16"	(406 mm)

8" Core (5/8" Hex-Shaft)

GBD 17"	(432 mm)
GBD 18"	(457 mm)

► Extra Heavy Duty

Shafts 3/4" - 1 1/4" All 120SC

Catalog Number	Drum Dia.	Section	Number of Sections on Drum	Shaft Dia.
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GBDX 19" (483 mm)	11 1/2"	A	22	3/4"
GBDX 20" (508 mm)	11 1/2"	B	22	3/4"
GBDX 21" (533 mm)	11 1/2"	C	22	3/4"
GBDX 22" (559 mm)	11 1/2"	D	22	3/4"
GBDX 23" (584 mm)	15 1/2"	A	29	3/4"
GBDX 24" (610 mm)	15 1/2"	B	29	3/4"
GBDX 25" (635 mm)	15 1/2"	C	29	3/4"
GBDX 26" (660 mm)	15 1/2"	D	29	3/4"
GBDX 27" (686 mm)	19 1/2"	A	36	1"
GBDX 28" (711 mm)	19 1/2"	B	36	1"
GBDX 29" (737 mm)	19 1/2"	C	36	1"
GBDX 30" (762 mm)	19 1/2"	D	36	1"
GBDX 31" (787 mm)	19 1/2"	E	36	1"
GBDX 32" (813 mm)	24 1/2"	A	44	1 1/4"
GBDX 33" (838 mm)	24 1/2"	B	44	1 1/4"
GBDX 34" (864 mm)	24 1/2"	C	44	1 1/4"
GBDX 35" (889 mm)	24 1/2"	D	44	1 1/4"
GBDX 36" (914 mm)	24 1/2"	E	44	1 1/4"

GBDX Replacement Sections Available For Above GBDX Flex-Hone® Tools

Catalog Number		Grit Size	Overall Trim
GBDX-A	Section	120SC	4 1/8" (105 mm)
GBDX-B	Section	120SC	4 5/8" (118 mm)
GBDX-C	Section	120SC	5 1/4" (133 mm)
GBDX-D	Section	120SC	5 3/4" (146 mm)
GBDX-E	Section	120SC	6 3/8" (162 mm)



► **Flex-Hone® for Rotors**

Flex-Hone® for Rotors utilizes the patented Flex-Hone® technology to produce the ideal surface finish on automotive and motorcycle disc brake rotors, automotive fly wheels and clutch plates. U.S. Patent No.'s. 5,353,553 and 5,211,725

More rotors per hone than abrasive pads

- Lowers Harmonic vibrations
- Produces a non-directional pattern
- Ideal for new and re-turned rotors and flywheels

Catalog Number	Item	Grit
RMFH60Z25	Flex-Hone® for Rotors	Coarse
RMFH120Z25	Flex-Hone® for Rotors	Medium
RMFH240Z25	Flex-Hone® for Rotors	Fine

► **Flex-Hone® Tool Information: Color Code**

Stem Marking	Type of Abrasive
No Color	Silicon Carbide (SC)
Black	Aluminum Oxide (AO)
Gold	Boron Carbide (BC)
Tan	Tungsten Carbide (WC)
Green	Levigated Alumina (LA)
Red	Zirconia Alumina (Z-Grain #1525)
White	Zirconia Alumina (Z-Grain #1549)

Order by actual cylinder I.D. All Flex-Hones are produced oversized.

End Marking	Grit Size
Brown	20
Purple	40
Gray	60
Orange	80
Silver (no Color)	120
Cardinal Red	180
Navy Blue	240
White	320
Yellow	400
Pink	600
Light Blue	800

► **Instructions For Use**

The Flex-Hone® Tool should be rotating upon entry and removal from cylinder. RPM from 1200 to 60 depending on diameter. Stroke from 30 to 200 per minute depending upon RPM. Average 350-500 RPM at 60-120 strokes. Final stroking may be accelerated to develop 45° cross hatch. OEM high production needs experimentation with different mineral or water-soluble honing oils for optimum results. For convenience use a 10-30 wt. motor oil or our Flex-Hone® Oil. Wash cylinders, preferably with water, brush and detergent, then dry and oil. Experiment honing time from 10 to 45 seconds just sufficient to develop Plateaued finish free from cut, torn and folded metal. Do Not Over-hone. Ask for Honing Booklets available at no charge.





► Shotgun Flex-Hone® Tools

Gage	Barrel Hones		Chamber Hone 800AO	Forcing Cone Hones	
	180SC	800AO		180SC	800AO
10 Ga	00607	00608	00611		
12 Ga	00048	00049	00054	02985	02986
16 Ga	00050	00051	00055	05611	05612
20 Ga	00052	00053	00056	05613	05614
.410	00609	00610	00612		
All Barrel Flex-Hones have a 3" abrasive part and are 34" OAL. The stem wire is covered with a protective shrink tube coating to protect the barrel. Medium and fine grits are offered for each gage (180SC/800AO).		All Chamber Flex-Hones have a 3" abrasive part and are 12" OAL. The stem wire is covered with a protective shrink tube coating to protect the barrel. All chamber Flex-Hones are fine grit, 800AO for the ultimate finish.		All Forcing Cone Flex-Hones have a 1-5/8" abrasive part and are 10" OAL. Medium and fine grits are offered in each gage (180SC/800AO)	

Shotgun Port Cleaning Brush
 1/8" 6" OAL - 06632
 3/16" 7" OAL - 06633

Shotgun Handled Chamber Brush
 12Ga - 06629
 20Ga - 06630

Gas Ring Brush
 06631



► Revolver/Rifle/Pistol Flex-Hone® Tools ► Auto-Pistol Flex-Hone® Tools

	Revolver Cylinders Flex-Hones	
	400SC	800SC
.357 MAG/.38	00899	00900
.41 MAG	00901	00902
.44 MAG	00903	00904
.45 ACP	00905	00906
.45 COLT	00907	00908

	400	800
1911 Main Spring Housing 4" OAL	00909	00910
1911 Slide Lug Area 8" OAL		BC18M800
S&W, Beretta, SIG Internal Slide		BC12800

All Revolver Cylinder Flex-Hones have a 1 5/8" abrasive part and are 3" OAL.

Universal Bolt Brush - 06627

► Rifle Chamber Flex-Hone® Tools

.223 Remington	06262
.357	03309
.44 MAG	03310
.45 COLT	03311

All rifle chamber Flex-Hones have a 1 5/8" abrasive part & 14" OAL

► Hand Tools

Hand Drawn Wire Fill (Heavy Duty) Handle Material	Handle Width	Fill Material		
		Stainless	Nylon	Brass
No. 93-A Laminated	1/4"	93A-S250	93A-N250	93A-B250
Hardwood Plywood	3/8"	93A-S375	93A-N375	93A-B375
	1/2"	93A-S500	93A-N500	93A-B500

Staple Set (Wire Fill in Poly Handle)

No. 93-AP .006 Stainless Wire Fill
 No. 93-APB .006 Brass Fill
 No. 93-APH Horsehair Fill
 No. 93-APP .006 Phosphor Bronze Fill
 No. 93-APN .012 Nylon Fill

Staple Set (Wire Fill in Wood Handle)

No. 93-AW .006SS Fill



► Acid Brush (Throw-Away Type)

#1	3/8"	6" OAL
#2	1/2"	6" OAL
#3	9/16"	6" OAL

Finest horse hair fill, tinned metal handle. Nylon available.

M-16 Cleaning Brush - 93DSN
Armorer's Brush - 701
Flex-Hone® Oil - Pint, Quart, Gallon

► **Flex-Hone® Oil**

Specifically formulated for use with the Flex-Hone® in honing all types of metals. Contains a blend of honing and lapping oils, a lard oil to prevent galling of aluminum, a moisture dispersant, a nonionic surfactant wetting agent to assure complete lubrication of the surface and a special additive to help keep the metal cuttings and containments in suspension. Emulsified, anti-bacteria agent.

Use sparingly, only a small amount needed on cylinder walls to create a slurry.

Clean the cylinder after honing with cloth or rags and clean motor oil until the cloth stays clean, then thoroughly wash cylinders with hot water and soap. Oil lightly afterwards to prevent rusting.

On hydraulic cylinders use only hydraulic brake fluid or a non-petroleum water-soluble lubricant.

Available in:

Catalog Number

FHP	1/2 Pint Can
FHQ	1 Quart Can
FHG	1 Gallon Can
FH5G	5 Gallon Can

► **Cylinder Washing Brush**

Made with 6-12 Nylon for efficient cleaning of cylinder walls after honing. Use with detergent and warm/hot water as recommended by Caterpillar, etc. Special diameters to 14"

Catalog Number	Dia.		Catalog Number	Dia.
03390	2" Diameter		10A512	5 1/2" Diameter
03391	2 1/2" Diameter		10A6	6" Diameter
02640	3" Diameter		10A612	6 1/2" Diameter
10A312	3 1/2" Diameter			
10A4	4" Diameter			
10A412	4 1/2" Diameter			
10A5	5" Diameter			

► **Pipe Nipple Adaptors**

Available for Flex-Hones®. Must be designated on order. Although available separately they are intended to be factory attached when ordered.

Catalog Number	Pipe Size	Flex-Hone® Sizes
832A	8-32 Adaptors	7mm - 1/2"
18NPT	1/8" NPT	5/8" - 3"
14NPT	1/4" NPT	3" - 5 1/2"
38NPT	3/8" NPT	6" - 8"
12NPT	1/2" NPT	8" - 12"
34NPT	3/4" NPT	12 1/2" - 18"

Extensions for use with pipe nipple adaptors

18x18	1/8" NPT x 18" w/coupling
18x36	1/8" NPT x 36" w/coupling
14x18	1/4" NPT x 18" w/coupling
14x36	1/4" NPT x 36" w/coupling





BNS



CY



BMC



BMF



NY



BNH + BUC

► Solid End Brushes

Catalog Number	Cup Diameter	Trim Length	Shank Dia.	Stocked Abrasive	Maximum Safe Free Speed(RPM)
BNS-4AY	1/2"	7/8"	1/4"	180 AO	20,000
BNS-6AY	3/4"	7/8"	1/4"	180 AO	20,000
BNS-10AY	1"	7/8"	1/4"	180 AO	20,000

► Copper Center Wheel Brushes

Catalog Number	Diameter	Trim Length	Arbor Hole	Stocked Abrasive	Maximum Safe Free Speed(RPM)
CY-1"	1"	1/8"	3/8"	600 AO	20,000
CY-1 1/4"	1 1/4"	1/4"	3/8"	600 AO	20,000
CY-1 1/2"	1 1/2"	3/8"	3/8"	600 AO	20,000
CY-2"	2"	1/2"	1/2"	500AO	20,000
CY-2 1/2"	2 1/2"	3/4"	1/2"	500AO	20,000
CY-3"	3"	1"	1/2"	500AO	20,000
CY-3 1/2"	3 1/2"	1 3/16"	5/8"	320AO	20,000
CY-4"	4"	1 7/16"	5/8"	320AO	20,000

► Mandrel Mounted Copper Center Wheel Brushes

Catalog Number	Diameter	Trim Length	Shank Diameter	Stocked Abrasive	Maximum Safe Free Speed(RPM)
BMC-12AY	1 1/4"	1/8"	1/4"	500AO	25,000
BMC-13AY	1 3/8"	3/16"	1/4"	500AO	25,000
BMC-14AY	1 1/2"	1/4"	1/4"	500AO	25,000
BMC-16AY	1 3/4"	3/8"	1/4"	500AO	25,000
BMC-20AY	2"	1/2"	1/4"	500AO	25,000
BMC-25AY	2 1/2"	11/16"	1/4"	500AO	25,000
BMC-30AY	3"	13/16"	1/4"	500AO	25,000
BMF-14AY	1 1/2"	1/4"	1/4"	500AO	25,000
BMF-16AY	1 3/4"	3/8"	1/4"	500AO	25,000
BMF-20AY	2"	1/2"	1/4"	500AO	25,000
BMF-25AY	2 1/2"	11/16"	1/4"	500AO	25,000
BMF-30AY	3"	13/16"	1/4"	500AO	25,000

► Wheel Brushes

Catalog Number	Diameter	Trim Length	Arbor Hole	Abrasive Options	Maximum Safe Free Speed(RPM)
NY-6	6"	1 1/2"	2"	80-500 AO&SC	6,000
NY-8	8"	1 7/8"	3 1/4"	80-500 AO&SC	5,000
NY-10	10"	2 7/8"	3 1/4"	120,180,320 SC	4,500
*NY-12	12"	3 3/8"	4 1/4"	80-500 AO&SC	4,000
*NY-14	14"	3 7/8"	5 1/4"	80-500 AO&SC	3,000

► Cup Brushes

Catalog Number	Cup Diameter	Trim Length	Shank Diameter	Stocked Abrasive	Maximum Safe Free Speed(RPM)
BNH-16AY	1 3/4"	1/2"	1/4"	320 AO	10,000
BNH-26AY	2 3/4"	3/4"	1/4"	320 AO	8,000

Catalog Number	Cup Diameter	Trim Length	Arbor Hole	Abrasive Options	Maximum Safe Free Speed(RPM)
BUC-4AY	4"	7/8"	5/8"-11	180 SC	8,500
BUC-6AY	6"	1 1/4"	5/8"-11	120 SC	6,000

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.

* Discontinued when stock is depleted

► **Series 81-AY**

Miniature Cross Hole Deburring Tools

- Stainless Steel Stem Wire
- Abrasive Nylon
- Single Stem-Single Spiral

Catalog Number	Hole Diameter	Brush Diameter	Brush Part	Inch Overall Length	Series Stem Diameter	Stocked Abrasive
81-AY .032"	0.032	0.035	5/8"	3"	0.016	Silicate
81-AY .047"	0.047	0.052	3/4"	3"	0.026	Silicate
81-AY .054"	0.054	0.059	3/4"	3"	0.026	Silicate
81-AY .063"	0.063	0.069	3/4"	3"	0.034	600 AO
81-AY .079"	0.079	0.087	3/4"	3"	0.034	600 AO
81-AY .094"	0.094	0.103	3/4"	3"	0.043	600 AO
81-AY .109"	0.109	0.120	3/4"	3"	0.055	600 AO
81-AY .125"	0.125	0.138	1"	3"	0.055	600 AO
81-AY .142"	0.142	0.156	1"	3"	0.072	600 AO
81-AY .156"	0.156	0.172	1"	3"	0.072	600 AO
81-AY .172"	0.172	0.189	1"	3"	0.083	600 AO
81-AY .189"	0.189	0.208	1"	3"	0.083	600 AO
81-AY 7/32"	0.219	0.241	1 1/2"	3"	0.097	600 AO
81-AY 1/4"	0.250	0.275	1 1/2"	3"	0.110	500 AO
81-AY 5/16"	0.313	0.344	1 1/2"	3"	0.125	500 AO
81-AY 3/8"	0.375	0.413	1 1/2"	3"	0.140	500 AO
81-AY 7/16"	0.438	0.481	1 1/2"	3"	0.140	500 AO
81-AY 1/2"	0.500	0.550	1 1/2"	3"	0.168	500 AO

Metric Series

81-AY 1mm	0.039	0.043	5/8"	3"	0.016	Silicate
81-AY 1.5mm	0.059	0.065	5/8"	3"	0.026	Silicate
81-AY 2mm	0.079	0.087	3/4"	3"	0.034	600 AO
81-AY 2.5mm	0.098	0.108	3/4"	3"	0.043	600 AO
81-AY 3mm	0.118	0.130	1"	3"	0.055	600 AO
81-AY 3.5mm	0.138	0.152	1"	3"	0.055	600 AO
81-AY 4mm	0.157	0.173	1"	3"	0.072	600 AO
81-AY 4.5mm	0.177	0.195	1"	3"	0.072	600 AO
81-AY 5mm	0.197	0.217	1"	3"	0.072	600 AO
81-AY 5.5mm	0.217	0.238	1"	3"	0.110	600 AO
81-AY 6mm	0.236	0.260	1"	3"	0.110	600 AO
81-AY 6.5mm	0.256	0.281	1"	3"	0.110	600 AO

Refer to Safety Instructions Pg. 3

► **Filaments on Special Order**

Available for **ALL** Abrasive Nylon tools

	.012/600	.018/500	.022/320	.035/180	.040/120	.040/80
Aluminum Oxide	X	X	X	X	X	X
Silicon Carbide		X	X	X	X	X
Silicate	Mild Abrasive .008 LV Filament					





- Galvanized Steel Stem Wire
- Abrasive Nylon Fill
- Single Stem-Single Spiral
- Bottom End Construction
- Specify grit type and size when ordering.

See page 15 for abrasive nylon chart

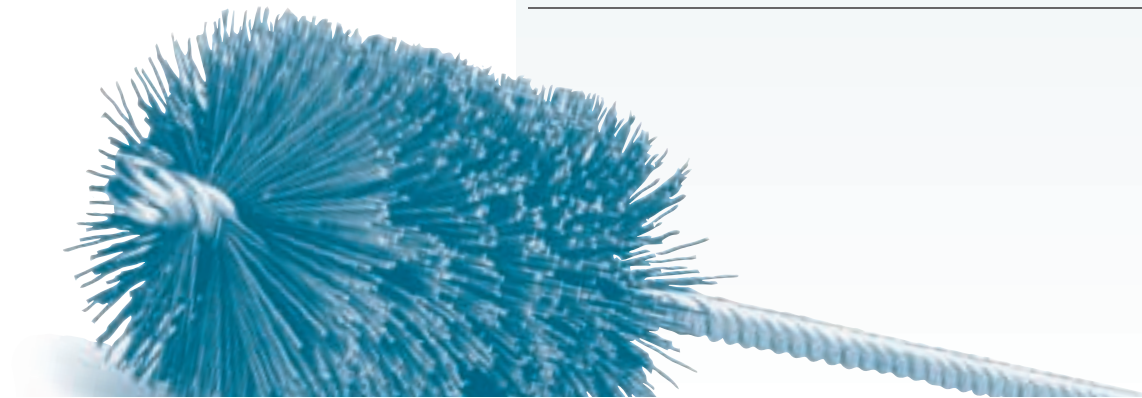
► Series 85 AY Abrasive Nylon Regular Deburring Tools

Catalog Number	Hole Dia. Inches	Brush Dia. Inches	Brush Part	OAL	Stem Dia. Inches	Stocked Abrasive
85-AY125	0.125	0.138	1"	4"	0.083	600 AO
85-AY156	0.156	0.172	1"	4"	0.097	600 AO
85-AY187	0.187	0.206	1"	4"	0.097	600 AO
85-AY219	0.219	0.241	1"	4"	0.112	600 AO
85-AY250	0.250	0.275	1 1/4"	4 1/2"	0.112	500 AO
85-AY281	0.281	0.309	1 1/4"	4 1/2"	0.112	500 AO
85-AY312	0.312	0.343	1 1/4"	4 1/2"	0.140	500 AO
85-AY344	0.344	0.378	1 1/4"	4 1/2"	0.140	500 AO
85-AY375	0.375	0.413	1 1/4"	4 1/2"	0.140	500 AO
85-AY406	0.406	0.447	1 1/4"	4 1/2"	0.168	500 AO
85-AY437	0.437	0.481	1 1/4"	4 1/2"	0.168	500 AO
85-AY469	0.469	0.516	1 1/4"	4 1/2"	0.168	500 AO
85-AY500	0.500	0.550	1 1/2"	5"	0.190	500 AO
85-AY562	0.562	0.618	1 1/2"	5"	0.190	500 AO
85-AY625	0.625	0.688	1 1/2"	5"	0.190	500 AO
85-AY687	0.687	0.756	1 1/2"	5"	0.220	500 AO
85-AY750	0.750	0.825	1 1/2"	5"	0.220	500 AO
85-AY812	0.812	0.893	1 1/2"	6"	0.220	500 AO
85-AY875	0.875	0.963	1 1/2"	6"	0.220	500 AO
85-AY937	0.937	1.031	1 1/2"	6"	0.220	500 AO
85-AY1000	1.000	1.100	2"	6"	0.220	500 AO
85-AY1250	1.250	1.375	2 1/2"	6 1/2"	0.245	500 AO
85-AY1500	1.500	1.650	2 1/2"	6 1/2"	0.245	500 AO
85-AY1750	1.750	1.925	3"	7"	0.292	500 AO
85-AY2000	2.000	2.200	3"	8"	0.292	320 AO
85-AY2500	2.500	2.750	3 1/2"	9"	0.292	320 AO
85-AY3000	3.000	3.300	4"	10"	0.292	320 AO

► Series 90 AY Abrasive Nylon Heavy Duty Deburring Tools

- Galvanized Steel Stem Wire
- Rigid Double Stem-Double Spiral

Catalog Number	Hole Dia. Inches	Brush Dia. Inches	Brush Part	OAL	Stem Dia. Inches	Stocked Abrasive
90-AY750	0.750	0.825	1 1/2"	6"	0.280	500 AO
90-AY875	0.875	0.963	1 1/2"	6"	0.310	500 AO
90-AY1000	1.000	1.100	2"	8"	0.310	500 AO
90-AY1250	1.250	1.375	2"	8"	0.310	500 AO
90-AY1500	1.500	1.650	2"	8"	0.310	500 AO
90-AY1750	1.750	1.925	2"	8"	0.310	500 AO
90-AY2000	2.000	2.200	3"	10"	0.310	320 AO
90-AY2250	2.250	2.475	3"	10"	0.310	320 AO
90-AY2500	2.500	2.750	3"	10"	0.310	320 AO
90-AY2750	2.750	3.025	3"	10"	0.310	320 AO
90-AY3000	3.000	3.300	4"	10"	0.310	320 AO
90-AY3500	3.500	3.850	4"	10"	0.310	320 AO



NAMPOWER™

► Abrasive Disc Brushing Tools

These tools are designed for manual and automated finishing machinery. Used in extrusion, automotive and appliance plants, as well as fineblanking and other industrial applications. If you are using a similar product whose size is not listed below, call us. We have the capability of providing customized products for a wide variety of applications.

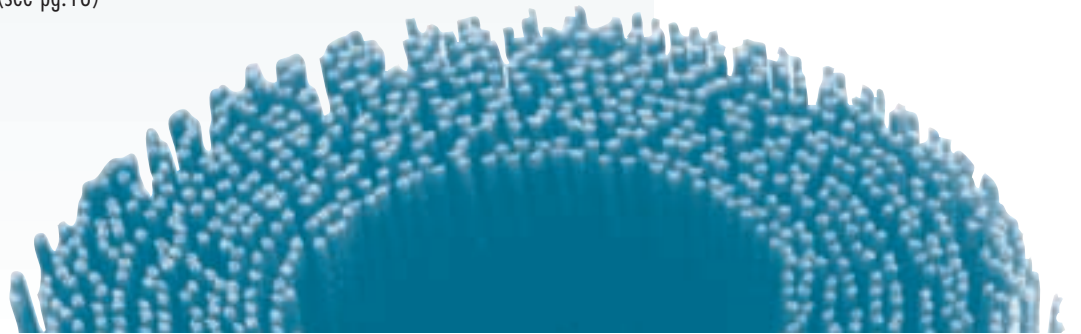
Catalog Number	Dia.	Fil. Dia./Grit	Arbor Hole	Trim Length	Max Safe RPM
AD4080	4"	.040/80SC	7/8"	1"	10,000
AD4120		.028/120SC			
AD4180		.035/180SC			
AD5046	5"	.060/46SC	7/8"	1"	10,000
AD5080		.040/80SC			
AD5120		.028/120SC			
AD7046	7"	.060/46SC	7/8"	1"	6,000
AD7080		.040/80SC			
AD7120		.028/120SC			
AD7180		.035/180SC			

► Abrasive Hex-Drive™ Tools

These tools are designed for use in semi-automatic and fully automatic machinery, including NC, CNC and robotic machine tools. The unique Hex-Drive™ system allows the tools to be turned in both directions for 360 finishing. Typical applications include deburring, edge radiusing and general surface finishing.

Catalog Number	Dia.	Fil. Dia./Grit	Arbor Hole	Trim Length	Max Safe RPM
AHX2046	2"	.060/46SC	1/4"	3/4"	10,000
AHX2060		.045/60SC		1"	
AHX2080		.040/80SC		1"	
AHX2120		.028/120SC		1"	
AHX2180		.035/180SC		1"	
AHX3046	3"	.060/46SC	1/4" *	3/4"	10,000
AHX3060		.045/60SC		1"	
AHX3080		.040/80SC	3/8"	1"	
AHX3120		.028/120SC		1"	
AHX3180	.035/180SC	1"			
AHX4060	4"	.045/60SC	1/4" *	1"	10,000
AHX4080		.040/80SC		1"	
AHX4120		.028/120SC	3/8"	1"	
AHX4180		.035/180SC		1"	
AHX5060	5"	.045/60SC	3/8" *	1"	6,000
AHX5080		.040/80SC		1"	
AHX5120		.028/120SC		1"	
AHX5180		.035/180SC		1"	

* Drive Arbors ordered separately. (see pg.18)





► Pads

These pads are super-strong - resist tearing, shredding - won't splinter - can be used with detergents and most solvents and will not rust - conforms to irregular surfaces - can be folded to any desired size - rinse clean, can be used over and over again... pads measure 6"x9".

10200 Blending Pads - Used for blending and finishing of stainless steel and aluminum scratch finishes. Silicon carbide, very fine grade, charcoal grey color.

10300 General Purpose Pads - For all-around cleaning and finishing. Imparts a satin finish to aluminum tubing, flats, frames and extrusions. Removes slivers and burrs from anodized aluminum and other materials. For hand blending and satin finishing stainless. Removes rust and corrosion, cleans and scuffs surfaces for painting. Aluminum Oxide, very fine grade, maroon color.

10400 Clean and Finish Pad - For light cleaning and fine finishing. Polishes dies, cleans aluminum, removes fine burrs on threaded metal parts. Silicon Carbide, ultra fine grade, grey color.

► Discs

High Speed Light Deburring Discs

Specifically designed to provide increased wear resistance and longer product life when used for light deburring. An internal lubricant eliminates smearing in high speed/pressure operations. Approximately 1/4" wide. Aluminum oxide, very fine grade.

20100 - 6" diameter x 1/4" AH

20101 - 8" diameter x 1/4" AH (Discontinued when stock is depleted.)

► Drive Arbors for Nampower™ Hex-Drive Tools

Catalogue Number	Shank Arbor	Shank Diameter	Max Brush Diameter	Max Safe RPM
AHxD250	1/2"	1/4"	4"	10,000
AHxD375	1/2"	3/8"	5"	10,000

► Back-up Pads for Disc Brushing Tools

Catalogue Number	Diameter Inches	Arbor Thread
ADP5	5"	5/8" x 11
ADP7	7"	5/8" x 11

► Retaining Nuts for Disc Brushing Tools

Catalogue Number	For Brush Diameter	Arbor Thread
ADN-5	5"	5/8" x 11
ADN-7	7"	5/8" x 11

► Spindle Extension for Disc Brushing Tools

Catalogue Number	Description
ADE58	5/8" - 11 x 5/8" x 11



► **Flex-Hone® Tool**

For complete product information please see pages 6-13. Because of the Patented Nature of the Flex-Hone®, it is expressly forbidden for it to be sold except in its approved package. The Flex-Hone® Tool is patented and the trademark is registered in all major trading countries of the world and is not available for export.

► **End Brushes**

Part No.	Type	Dia.	.006	.0104	.014	.016	.020	.006SS	.016SS
BNF-10SD	Flared	1"						X	
BNH-6D	Knot	3/4"			X		X		
BNH-12D	Knot	1 1/8"			X		X		
BNS-4D	Solid	1/2"	X	X	X		X	X	
BNS-6D	Solid	3/4"	X	X	X		X		
BNS-10D	Solid	1"	X	X	X		X		
BNS-6ED	Encaps	3/4"					X		
95-ECS-4D	Cable	1/2"				X			X

Max Safe Free Speed 20,000 RPM, except on 95-ECS-4D which is 2500 RPM.

► **Wheel Brushes**

Part No.	Type	Dia.	.006	.0104	.014	.016	MaxSafe Free Speed RPM
BDM-6D	Narrow	6"	X	X	X		4,500
BDA-6D	Medium	6"	X	X	X		4,500
BDH-6D	Wide	6"	X	X	X		4,500
BTS-6D	Knotted	6"			X	X	8,000

► **Deep Well End Brushes**

The Deep Well End Brushes are excellent for detailing. They have been designed so that when the end wears away, the body may be cut back to expose a new brush surface.

Part No.	Size	Brush Part	Fill Material	Body
DEB-1	1/4"	4"	.012 Stainless Steel	Brass Tube
DEB-2	3/8"	6"	.017 Stainless Steel	Brass Tube
DEB-5	1/2"	2 1/2"	.020 Carbon Steel	Spring Cup

Do Not Use On High Speed Drill Motors. 1200 M.S.F.S.





► Small Diameter Cup Brushes

Part No.	Diameter	Wire Size	Max Safe Free Speed RPM
BNH-16D	1 3/4"	.0118	10,000
BNH-26D	2 3/4"	.0118	8,000

► General Purpose Brushes

For Thread Cleaning, Weld Cleaning, etc.

Part No. 93-APD Stainless Steel Wire with Poly Handle

Part No. 93-AWD Stainless Steel Wire with Wood Handle

► Scratch Brushes

Part No.	No. of Rows	Fill Material	Block Width	Handle Type
B-25D	3 x 10	Carbon Steel	7/8"	Curved Handle
B-40D	3 x 19	Carbon Steel	1"	Curved Handle
B-41D	4 x 19	Carbon Steel	1 1/8"	Curved Handle
B-44D	4 x 16	Carbon Steel	1 1/8"	Shoe Handle
B-61D	9 x 10	Crimped Brass	2 5/8"	Paddle Handle

► Oil Gallery Kit Brushes*

A Kit of 5 brushes made in 6-12 Nylon for cleaning the Oil Galleries.
Each kit contains 1 each of the following:

- 5 (5/8" x 3" x 34")
- 7 (3/4" x 3" x 34")
- 8 (3/4" x 3" x 40")
- 38 (3/8" x 3" x 34")
- 42 (1/2" x 2 3/4" x 34")

Part No. OG Kit

* See pg. 26.



► **Spark Plug Brush**

Needed on a rebuild job, tapered .600 to .625 inches with .005 Carbon Steel Fill.

Part No. SPB-1

► **Acid Brushes**

Horsehair fill. 3/8" width, finest quality. Packaged 6 each.

Part No. AB-1

► **Oil Line Kit Brushes**

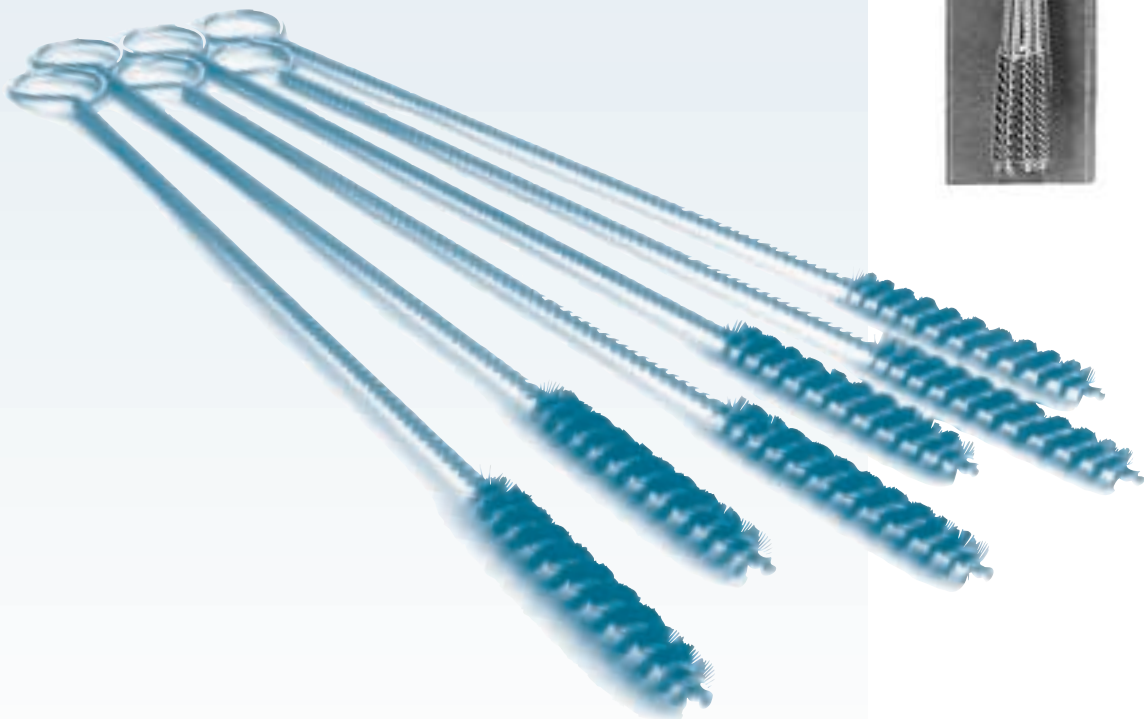
A kit of 9 brushes made in 6-12 Nylon for cleaning the Oil Lines.
Each kit contains: 1 each of a #1 (1/4" dia.), 2 each of #2 (5/16" dia.) and 6 each of a #3 (3/8" dia.).

Part No. OL Kit

► **Throw-Away Paint Brush**

1" width, pure pig bristle, plain unpainted handle which can be used in solvents.

Part No. 92-E-1



► Parts Wash Brushes

Brush Research Mfg. is proud to offer the best parts wash brush on the market today. Injection molded Polypropylene handles, synthetic filaments for resistance to solvent cleaners. All metal parts are either stainless steel or brass for corrosion resistance. These are superior tools that will make each and every job easier and faster, saving both time and money. All tube fittings are manufactured to allow use on the most popular recirculating parts washers such as Enco, KlearFlo, Safety Kleen and others. The ergonomic styles will reduce any wrist strain and allow for increased pressure during cleaning.

- Non-Slip Grip
- Guaranteed not to mushroom
- Heavy Duty Construction
- Penetrating Tip

Part No.	PW-A	Flow thru with tube
	PW-ANT	Flow thru without tube
	PW-C	Non flow thru

The absolute best parts wash brush on the market today! Designed with the professional in mind. Made with synthetic filaments to resist solvent type cleaners. Supplied with or without a 2 ft. tube designed to fit 0.500 to 0.600 O.D. parts washer nozzles.

Part No.	PW-6P	Flow thru with tube
	PW-6PNT	Flow thru without tube
	PW-7P	Non flow thru

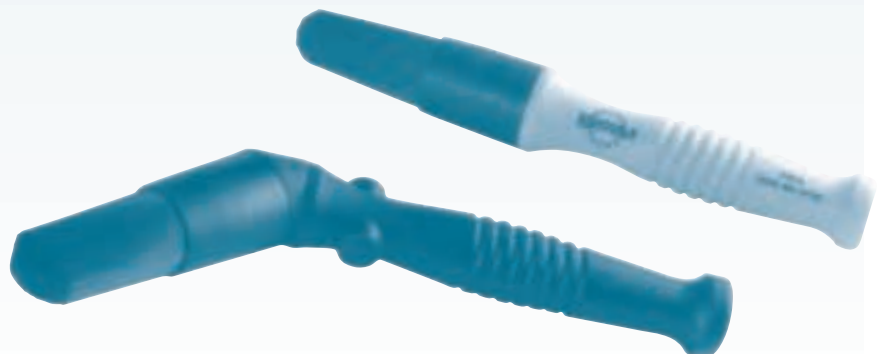
A totally new concept in parts washing brushes. The ergonomic handle design reduces wrist fatigue. Made with Polypropylene handles with synthetic filaments to resist solvent type cleaners.

Part No.	PW-1P	Flow thru with valve & tube
	PW-1PNT	Flow thru with valve without tube
	PW-4P	Flow thru with valve & tube
	PW-4PNT	Flow thru with valve without tube

Both brushes incorporate a unique flow control system that allows you to control the amount of cleaning fluid desired. The large brushing area of the PW-1P makes the cleaning of large areas faster and easier than ever before. The PW-4P is designed for the automotive brake mechanics.

Part No.	PW- 3/4	3/4" diameter aluminum handle
		Non flow thru scraper end

Our most popular selling parts wash brush with polypropylene fill



► **Copper Cleaning and Seating**

Cummins Group

Stainless Steel wire with plastic handle to be used when changing injector while in truck.

Part No.	Wire Size	Major Dia.	Brush Part	Overall Length
NH1	.005" SS	1.175	1 1/2"	14 1/2"
V861	.006" SS	1.150	2 1/8"	10 1/2"
JC1	.006" SS	1.200	2 1/8"	10 1/2"
L1	.006" SS	2.050	3 5/8"	12"

Stainless Steel wire cleans or polishes entire copper. Best used as a bench tool. Cut for power.

Part No.	Wire Size	Major Dia.	Brush Part	Overall Length
NH2	.006" SS	1.625	4 1/4"	10"
V862	.006" SS	1.125	2 1/8"	10"
JC2	.006" SS	1.350	3 3/8"	10"
L2	.006" SS	2.250	6 1/2"	12"

Carbon Steel wire to be used as a seat brush to insure perfect seating of newly installed coppers. Cut for power.

Part No.	Wire Size	Major Dia.	Brush Part	Overall Length
NH3N	.005" SS	1.175	1 1/2"	8 1/2"
L3N	.008" SS	2.125	1 3/4"	10"
V863	.010" C/S	1.250	2 1/8"	10"
JC3	.012" C/S	1.500	3 1/4"	10"
L30	.012" C/S	2.500	6 1/2"	12"

Cummins Injector Cup Retainer PTD cleaner brush, of .005 SS fill, shaped to fit ID.

Part No. PTD-1

Cummins Injector Cup for PTD (diameter 5/16" by 1/2" trim length). Tapered-Brass Bridle

Part No. PTD- 2

Cummins Injector Cup for PTB 3/8" dia. by 5/8" trim. Tapered-Brass-Bridle

Part No. PTB- 1

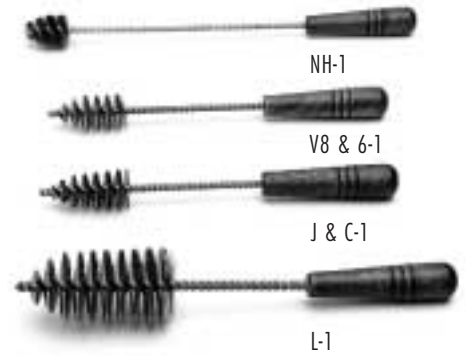
Cummins Plunger Bore cleaner brush of medium soft 6-12 type nylon with handle.

Part No. PB

PB then specify diameter wanted. Diameters .400, .450, .500, .550, .850, 1".

Part No.	Wire Size	Major Dia.	Brush Part	Overall Length
PTD1	.006" SS	0.975	2"	10 1/2"
PTD2	.005" SS	0.312	1"	6 1/2"
PTB1	.005" SS	0.375	1 1/4"	6 1/2"

No Number for PB



NH-1

V8 & 6-1

J & C-1

L-1



NH-2

V8 & 6-2

J & C-2



L-2



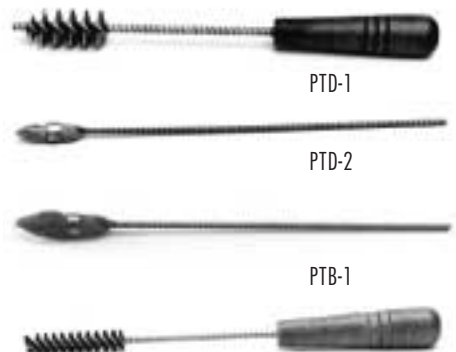
NH-3 New STYLE

L3 NEW STYLE

V8 & 6-3

J & C-3

L-3 Old Style

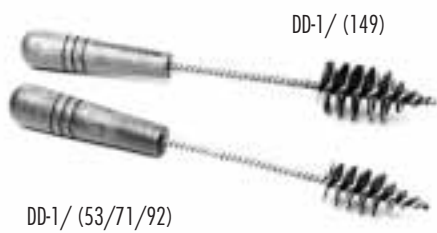


PTD-1

PTD-2

PTB-1

PB



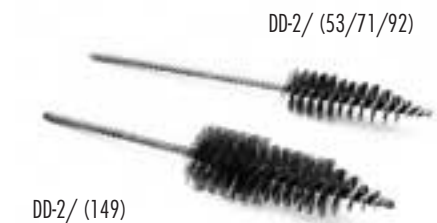
DD-1/ (149)

DD-1/ (53/71/92)

► Detroit Diesel

Stainless Steel wire with plastic handle to be used when changing injector while in truck.

Part No.	Wire Size	Major Dia.	Brush Part	Over All Length
DD1(149)	.006" SS	1.400	2 3/4"	10 1/2"
DD1(53/71/92)	.006" SS	1.000	2 3/16"	10 1/2"



DD-2/ (53/71/92)

DD-2/ (149)

Stainless Steel wire cleans or polishes entire copper. Best use as a bench tool. Cut for power.

Part No.	Wire Size	Major Dia.	Brush Part	Over All Length
DD2(149)	.006" SS	1.625	4 3/4"	10"
DD2(53/71/92)	.006" SS	1.200	3 3/4"	10"



DD-3/ NEW STYLE

DD-3/(53/71/92)

DD-3/ (149)

Carbon Steel wire to be used as a seat brush to insure perfect seating of newly installed coppers. Cut for power.

Part No.	Wire Size	Major Dia.	Brush Part	Over All Length
No Number for New				
DD3(149)	.012" C/S	1.675	5"	10"
DD3(53/71/92)	.012" C/S	1.300	3 5/8"	10"



► Caterpillar

For Direct Injection Nozzles
Cleaning Pre-Combustion Chambers of 1693, 333, 342, 346, 348, 353

Part No.	Wire Size	Major Dia.	Brush Part	Over All Length
CAT1	.005" SS	0.900	7/8"	10 1/2"
CAT2	.005" SS	0.625	5/8"	10 1/2"



► Injector Cavity Seating Brush

To clean the shoulder/washer area. Two small diameter end brushes with .005 stainless steel wire with a brass bridle.

Catalog Number	Wire Size	Major Dia.	Brush Part	Over All Length
SB-1	1/4"	dia. with 5/8"	brush part length	
SB-2	5/16"	dia. with 1/2"	brush part length	

► International Harvester

Catalog Number

FB-5 Flat Bottom Brush, 1/2" dia., SS fill
 FB-75 Flat Bottom Brush, 3/4" dia., SS fill

► Crankshaft Oil Holes

CSN Set of 1 each 6-12 Nylon 5/16" and 7/32 x 2 x 10
 CSS Same set in stainless steel wire

► Block "O" Ring Groove Cleaner

5 1/2" diameter brush of extra heavy .079 nylon filaments for fast and efficient cleaning of "O"-Ring grooves. Comes with small stainless steel hand tool for removing old "O"-Ring and scraping groove when replacing wet sleeves. (John Deere) Other sizes available (consult factory for pricing).

Catalog Number 10-SJD

► Magnatest Powder

Superior Blend to Carry and Hold the Fine and Medium Particles for Maximum Effect.

	White, Red, or Yellow Catalog Number	Grey (Economy) Catalog Number
1lb. Can	MP-1	MP-1G
2lb. Can	MP-2	MP-2G
5lb. Can	MP-5	MP-5G
10lb. Can	MP-10	MP-10G
20lb. Can	MP-20	MP-20G
100lb. Can	MP-100	MP-100G

► Spoke Brush

3" diameter crimped prostran.

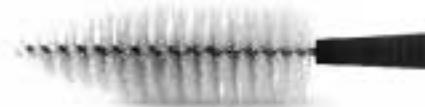
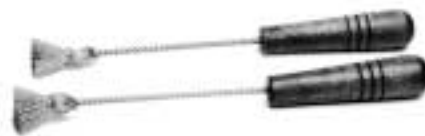
Catalog Number Spoke

► Valve Guide Brushes

New style using a 7/32" shank for cleaning valve guides and other small holes.

Catalog No.	Fill Material	Brush Diameter	Brush Part	OAL
VGC312	.008 CS	5/16"	2 1/2"	9 1/2"
VGC344	.008 CS	11/32"	2 1/2"	9 1/2"
VGC375	.008 CS	3/8"	2 1/2"	9 1/2"
VGC438	.008 CS	7/16"	2 1/2"	9 1/2"

Nylon and stainless steel available on special request.





You can't have a clean engine with just a hot tank and an air hose with water. You need something to take out the old metal chips, the grinding compounds the sludge and the dirt from the parts you can't see - the oil passageways. We use the finest-quality high-density 6-12 Nylon in our Nylon Brushes.

► Nylon

Catalog No.	Dia. x Brush Part x OAL	Description: 6-12 Nylon
1	1/4 x 2 x 10	Small Stiff Brush for Feed Line Holes
1a		Same as #1 but with light fill and flexible stem
2	5/16 x 2 1/2 x 12	Stiff Brush for Crankshaft Holes and Valve Guides
2a		Same as #2, but with light fill and flexible stem
3	3/8 x 2 1/2 x 12	Same as #2
4	5/8 x 3 x 12	For Feed Lines and Main Bearings
5	5/8 x 3 x 34	Same as #4, but with extra length
6	3/4 x 3 x 12	For larger sizes of Lifter Holes
7	3/4 x 3 x 34	For Main Oil Galleries
8	3/4 x 3 x 40	For Main Oil Galleries
9	1 1/8 x 3 x 14	For Lifter Holes
38	3/8 x 3 x 34	For Oil Galleries
41	1/2 x 2 1/2 x 12	For Valve Guides
42	1/2 x 2 1/2 x 34	For Main Oil Galleries
44	1/2 x 2 1/2 x 12	Same as #41 but with light fill and flexible stem
46	1 1/4 x 4 x 12	For Tapered Pin Fitter
47	11/32 x 2 1/2 x 12	For Valve Guides
48	13/32 x 2 1/2 x 12	For Valve Guides
49	7/16 x 2 1/2 x 12	For Valve Guides

► Carbon Steel (For the Rough Spots)

Catalog No.	Dia. x Brush Part x OAL	Description
11-C	1/4 x 2 x 10	Same as #1, but in Carbon Steel Wire
13-C	5/16 x 2 1/2 x 12	For Cam Bearing Feed Lines and Valve Guides
14-C	3/8 x 2 1/2 x 12	For Cam Bearing Feed Lines and Valve Guides
15	5/8 x 3 x 12	For Push Rod Holes
16	5/8 x 3 x 30	For Oil Galleries
6-C	3/4 x 3 x 12	For Larger size Lifter Holes
7-C	3/4 x 3 x 34	For Main Oil Galleries
8-C	3/4 x 3 x 40	For Main Oil Galleries
18	1 1/8 x 3 x 14	For Lifter Holes
38-C	3/8 x 3 x 34	For Oil Galleries
44-C	1/2 x 2 1/2 x 12	Same as #41, but in Carbon Steel Wire
45	1/2 x 2 1/2 x 34	Same as #42, but in Carbon Steel Wire
46-C	1 1/4 x 4 x 12	For Tapered Pin Fitter
47-C	11/32 x 2 1/2 x 12	For Valve Guides
48-C	13/32 x 2 1/2 x 12	For Valve Guides
49-C	7/16 x 2 1/2 x 12	For Valve Guides

► Kits

1 E Kit Contains:

- 3 ea. - #1, 1a, 2, 2a, / 6 ea. - #3
- 1 ea. - #4, 5, 6, 7, 8, 9, 38, 41, 42, 46, 10a(5")
- Total of 29 brushes (Savings on reg. price)

VGNK (Nylon Valve Guide Kit) Contains: 1,2,3,44N, 47N, 48N, 49N.

VGCK (Carbon Steel Valve Guide Kit) Contains: 11C, 13C, 14C, 44C, 47C, 48C, 49C.

► Flare Brushes

Patent No. 3696563

The Patented DEB-3, 3x, 4 and 4x Flare Brushes have a cobalt base hard facing which is flame-coated to the ends of stainless steel aircraft cable.

- DEB-3** 3-Prong Heavy Duty
Use with slow RPM drill motor for chipping operation. Suitable for carbon removal from ports, etc. Will cover IDs from 1" - 3 1/2."
- DEB-4** 5-Prong Light Duty. Will flare out at 2,000 RPM for rust and scale removal from pipe IDs. Long life as long as it does not get hung-up, which will twist cables. Will cover IDs from 1 1/2" - 4". Will work on curved pipe.
- DEB-3x** Similar to DEB-3 except with longer prongs for 3 1/2"-6" IDs. For rust removal from pipe IDs at 2,000 rpm.
- DEB-4x** Similar to DEB-4 except made with longer prongs for 5" to 8" IDs.

Note: Available with threaded stem on special request.





BTS



B-464



TW-6

► **Medium Face - Standard Twist**

Catalog Number	Dia.	Wire Size Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BTS-3	3"	.0118 .014 .020	.0118SS .014SS .020SS	3/8", 1/2"	1/2"	7/16"	20,000
BTS-4	4"	.0118 .014 .016 .020	.0118SS .014SS .016SS .020SS	3/8", 1/2" or 5/8" - 11	13/16"	1/2"	20,000
BTS-6	6"	.0118 .014 .016 .023 .030	.0118SS .014SS .016SS	1/2", 5/8"	1 7/16"	5/8"	8,000
BTS-7	7"	.014	.016	1/2", 5/8"	1 11/16"	5/8"	8,000
BTS-8	8"	.0118 .014 .016 .023 .030	.0118SS .014SS .016SS	1/2", 5/8" 3/4"	1 11/16"	3/4"	6,000
BTS-10	10"	.0118 .014 .016		3/4", 1"	2 1/4"	9/16"	4,500
BTS-12	12"	.0118 .014 .016		1 1/4"	3 1/8"	3/4"	3,600
BTS-15	15"	.014		1 1/4"	4 1/4"	7/8"	3,600
B-462	6"	.016		1" with 2 keyways (similar to BTS-6)			8,000
B-464	8"	.016		1" with 2 keyways (similar to BTS-8)			6,000

► **Wide Face - Standard Twist**

Catalog Number	Dia.	Wire Size Carbon Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
TW-6	6"	.0118 .016	2"	1 1/4"	1"	9,000
TW-8	8"	.0118 .016 .025	2"	1 3/4"	1 1/8"	6,000
TW-10	10"	.0118 .016	2"	2 1/4"	1 3/8"	4,500
TW-12	12"	.0118 .016	2"	3 1/8"	1 3/8"	3,600



► Medium Face - Cable Twist

Catalog Number	Dia.	Wire Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BTC-4	4"	.014 .020	.014SS .020SS	3/8", 1/2", or 5/8" - 11	13/16"	3/8"	20,000
BTC-6	6"	.023 .030	.023SS .030SS	1/2", 5/8"	1 7/16"	7/16"	8,000
BTC-7	7"	.023 .030		1/2", 5/8"	1 11/16"	1/2"	7,000
BTC-8	8"	.023 .030		1/2", 5/8" 3/4"	1 11/16"	9/16"	6,000
BTC-10	10"	.025		1"	2 1/4"	9/16"	4,500
BTC-12	12"	.025		1 1/4"	3 1/8"	9/16"	3,600



Stringer Bead - Cable Twist

Catalog Number	Dia.	Wire Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BSTCM-102	4"	.020	.020SS	5/8" - 11	7/8"	3/16"	20,000
BSTCM-115	4 1/2"	.020		5/8" - 11	13/16"	3/16"	12,500
BSTCM-170	6 7/8"	.020	.020SS	5/8" - 11	1 1/4"	3/16"	9,000
BQTC-6*	6"	.025	.025SS	5/8" - 11	1 7/16"	3/8"	9,000



Add S to Cat. No. for Stainless Steel

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe free speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.

*Discontinued when stock is depleted.





Brush Characteristics

- Narrow brushing face
- High flexibility – long trim
- Highest quality oil tempered crimped wire
- Fine to medium coarse brushing action



Brush Characteristics

- Premier of medium face wire wheels
- Absolute lowest end-of-service cost
- Maximum desirable wire points at brush face
- Highest quality oil tempered crimped wire
- Low flexibility
 - fast cutting action
 - long life
- Uniform brushing action

► **Multi-Duty Narrow Face**

Catalog Number	Dia.	Wire Size Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BDM-3	3"	.006 .0104 .0118	.006SS .0118SS	3/8" - 1/2"	1/2"	3/8"	6,000
BDM-4	4"	.006 .008 .0104 .0118 .014	.006SS .008SS .0104SS .0118SS .014SS	3/8" - 1/2"	7/8"	3/8"	6,000
BDM-6	6"	.006 .008 .0104 .0118 .014	.006SS .008SS .0104SS .0118SS .014SS	2"	1 1/8"	1/2"	4,500
BDM-6B	6"	.006 Brass		2"	1 1/8"	7/16"	6,000
BDM-8	8"	.006 .008 .0104 .0118 .014	.006SS .0104SS .014SS	2"	1 1/2"	1/2"	4,500
BDM-10	10"	.006 .0104 .014		5/8", 3/4"	2 15/32"	1/2"	3,600
BDM-12	12"	.006 .0118 .014		1"	3"	5/8"	3,000
BDM-15	15"	.0118 .014		1 1/4"	4 1/2"	5/8"	2,400

► **Standard Duty Medium Face**

BDA-4	4 1/4"	.0118 .014		2"	5/8"	1 1/8"	6,000
BDA-6	6"	.006 .008 .0104 .0118 .014	.006SS .008SS .0118SS .014SS	2"	1 1/8"	7/8"	4,500
BDA-7	7"	.006 .0118 .014	.014SS	2"	1 5/8"	7/8"	4,500
BDA-8	8"	.006 .0104 .0118 .014	.006SS .0104SS .0118SS .014SS	2"	1 1/2"	7/8"	4,500
BDA-10	10"	.006 .0104 .0118 .014 .020	.006SS* .014SS	2"	2 1/8"	1 1/4"	3,600
BDA-12	12"	.0118 .014 .020		2"	3"	1 3/8"	3,000

* Limited to stock on hand

► Heavy Duty Wide Face

Catalog Number	Dia.	Wire Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BDH-4	4 1/4"	.0104 .0118 .014	.014SS	2"	5/8"	1 1/2"	6,000
BDH-6	6"	.006 .008 .0104 .0118 .014	.006SS .0118SS .014SS	2"	1 1/8"	1 3/8"	4,500
BDH-7	7"	.0118 .014		2"	1 5/8"	1 3/8"	4,500
BDH-8	8"	.006 .0104 .0118 .014 .020	.006SS .014SS	2"	1 1/2"	1 3/8"	4,500
BDH-10	10"	.0104 .014 .020		2"	2 1/8"	1 3/4"	3,600
BDH-12	12"	.0118 .014 .020		2"	3"	2"	3,000
BDH-15	15"	.0118		2"	3 3/4"	2 1/4"	2,400

Super Duty Extra Wide Face

Catalog Number	Dia.	Wire Carbon Steel	Wire Size Stainless Steel	Arbor Holes	Trim Length	Approx. Running Face Width	Maximum Safe Free Speed(RPM)
BDS-63	6"	.0104		2"	1/2"	1 1/4"	4,500
BDS-65	6"	.0104		2"	1/2"	1 3/4"	4,500
BDS-67	6"	.0104		2"	1/2"	2 1/4"	4,500

Order by catalog number and specify wire size and arbor hole.
When ordering stainless steel wire be sure to add the letter S to the catalog number.

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe free speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.



Brush Characteristics

- Wide brushing face
- Low flexibility – fast cutting action – long life
- Highest quality oil tempered crimped wire
- Heavily filled
- Uniform brushing action

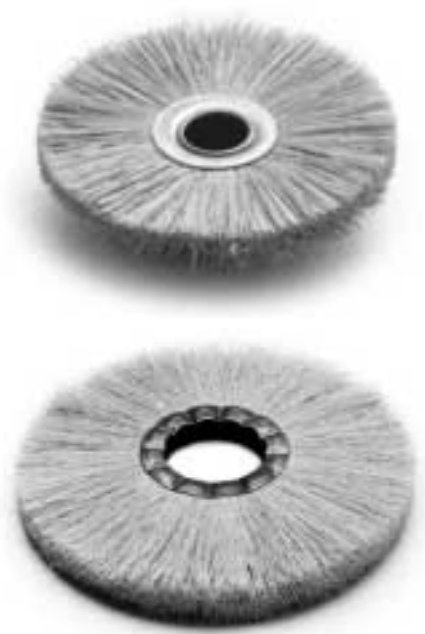


Brush Characteristics

- Extra wide brushing face
- Short trim
 - extremely fast cutting action
 - extremely long life
- Extra dense fill
- Uniform rugged brushing action

Popular Applications

- Deburring
- Edge blending
- Roughing for adhesion
- Finishing for appearance



► Tampico Wheel Brushes

Catalog Number	Diameter	Arbor Holes	Face Width	Maximum Safe Free Speed (RPM)
CT-2	2"	1/2"	3/8"	20,000
CT-2 1/2	2 1/2"	1/2"	3/8"	20,000
CT-3	3"	1/2"	3/8"	20,000
CT-3 1/2	3 1/2"	1/2"	1/2"	20,000
TWA-6	6"	2"	17/32"	6,000
TWA-8	8"	3 1/4"	17/32"	5,000
TWA-10	10"	3 1/4"	17/32"	4,500

► Nylon Wheel Brushes

Catalog Number	Diameter	Arbor Holes	Nylon Size	Face Width	Maximum Safe Free Speed (RPM)
CN-1	1"	1/4"	.006	1/4"	20,000
CN-1 3/8	1 3/8"	1/4" or 3/8"	.010	1/4"	20,000
CN-1 1/2	1 1/2"	1/4" or 3/8"	.010	1/4"	20,000
CN-1 3/4	1 3/4"	1/4" or 3/8"	.006 .010 .016	1/4"	20,000
CN-2	2"	1/2" or 5/8"	.006 .010 .016	3/8"	20,000
CN-2 1/2	2 1/2"	1/2" or 5/8"	.006 .010 .016	1/2"	20,000
CN-3	3"	1/2" or 5/8"	.006 .010 .016	1/2"	20,000
CN-3 1/2	3 1/2"	1/2" or 5/8"	.006 .010 .016 .020	1/2"	20,000
CN-4	4"	1/2" or 5/8"	.006 .010 .016 .020	1/2"	20,000
NWA-6	6"	2"	.006 .016 .022	1/2"	6,000
NWA-8	8"	2"	.006 .016 .022	1/2"	4,800

Specify catalog number, filament size and arbor hole when ordering.

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe free speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.

► Copper Center Wheel Brushes

Catalog Number	Diameter	Arbor Hole	Carbon Steel	Wire Size Stainless Steel	Maximum Safe Free Speed (RPM)
C-1"	1"	3/8"	*.008	*.006SS	20,000
C-1 1/4"	1 1/4"	3/8"	.006 .008	.006SS	20,000
C-1 3/8"	1 3/8"	3/8"	.006 .008 .0104 .0118 .014		20,000
C-1 1/2"	1 1/2"	3/8"	.006 .008 .0104 .0118	.006SS *.008SS	20,000
C-1 5/8"	1 5/8"	3/8"	*.008		20,000
C-2"	2"	1/2"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0104SS .0118SS .014SS	20,000
C-2 1/2"	2 1/2"	1/2"	.006 .008 .0104 .0118 .014 .020	.006SS .0104SS .0118SS .014SS	20,000
C-2 1/2"	2 1/2"	5/8"	.006 .008 .0104 .0118 .014 .020	.006SS .0104SS .0118SS .014SS	20,000
C-3"	3"	1/2"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0118SS .014SS	20,000
C-3"	3"	5/8"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0118SS .014SS	20,000
C-3 1/2"	3 1/2"	1/2"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0104SS .0118SS .014SS	20,000
C-4"	4"	1/2"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0104SS .0118SS .014SS	20,000
C-4"	4"	5/8"	.006 .008 .0104 .0118 .014 .020	.006SS .008SS .0104SS .0118SS .014SS	20,000



Brush Characteristics

- Small diameter brushing tools
- Narrow brushing faces
- Can be mounted in multiples
- Designed to operate at high speeds
- Light duty applications

Popular Applications

- Deburring
- Edge blending
- Cleaning – Rust removal
- Roughing for adhesion
- Finishing for appearance

Copper center is also available in nylon, tampico, abrasive nylon and encapsulation(See pages 14, 32 & 39).

*Discontinued when stock is depleted



► Crimped (Light Duty Use)

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUC-3	3"	.014	.014SS	5/8" - 11	3/4"	14,000
BUC-4	4"	.0118 .014 .020	.014SS	5/8" - 11	1 1/4"	9,000
BUC-5	5"	.014 .020		5/8" - 11	1 1/4"	9,000
BUC-6	6"	.014 .020	.014SS	5/8" - 11	1 3/8"	6,600

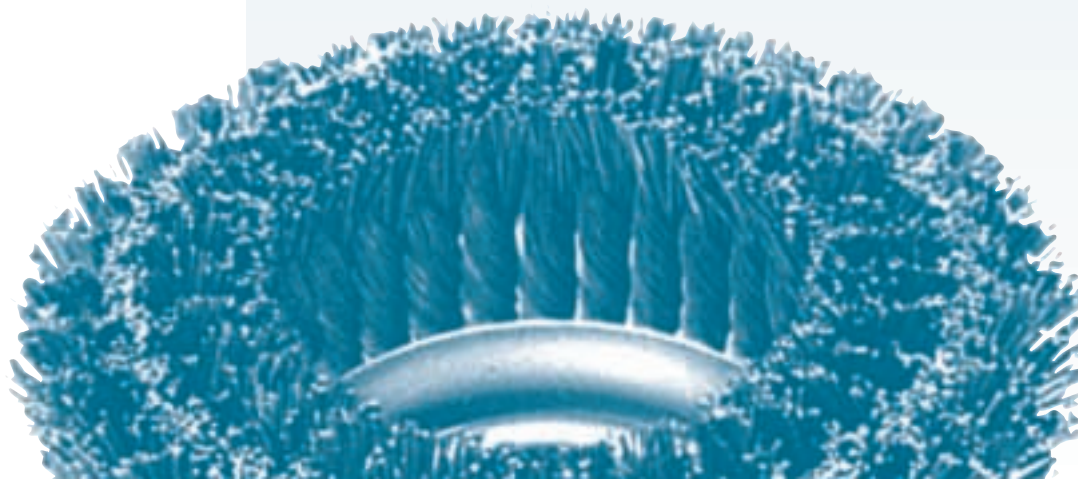
► Knot Type, Single Row

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUS-3	2 3/4"	.014		5/8" - 11	3/4"	12,500
BUS-4	4"	.0118 .014 .020	.0118SS .014SS	5/8" - 11	1 1/4"	9,000
BUS-5	5"	.014 .020		5/8" - 11	1 1/4"	7,000
BUS-6	6"	.014 .020 .025 .030*	.014SS	5/8" - 11	1 3/8"	6,600

► Knot Type - Cable Twist

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUSC-3	2 3/4"	.020	.20SS	5/8" - 11	3/4"	14,000

* Limited to stock on hand



► Knot Type - Double Row

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUDX-4	4"	.014 .020	.020SS	5/8" - 11	1 1/4"	9,000
BUDX-6	6"	.014 .020 .035	.020SS	5/8" - 11	1 1/2"	6,000

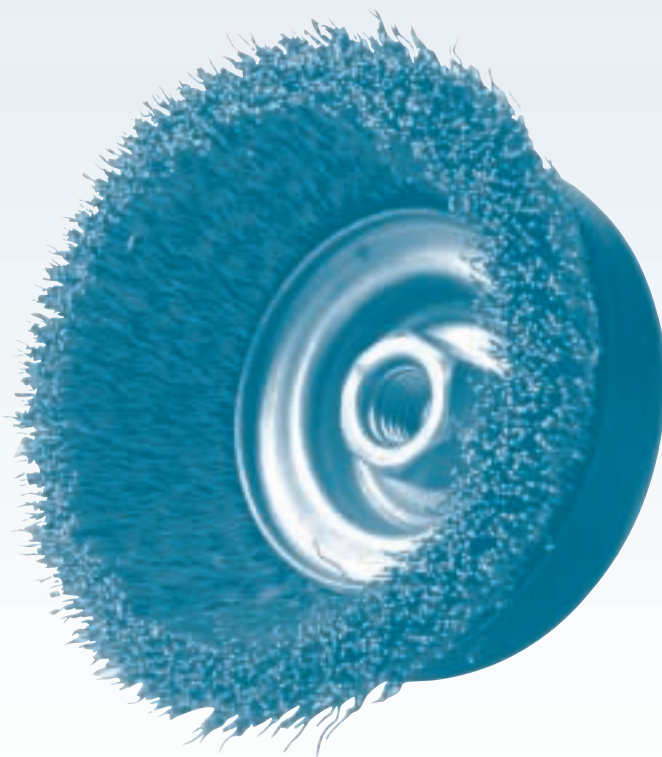
► Knot Type - Cable Twist Double Row

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUDXC-5*	5"	.020	.020SS	5/8" - 11	1 1/4"	7,000
BUDXC-6*	6"	.035		5/8" - 11	1 3/8"	6,000

*Discontinued when stock is depleted

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe free speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.





General purpose end brushes used for cleaning castings, blending, polishing dies and removing carbon deposits on piston heads, cylinders and valve seats.

Also available with Nylon, or Brass Fill Material. For Abrasive Nylon see pg 14.



► Solid End

Catalog Number	Dia.	Carbon Steel	Wire Size		Trim Length	Maximum Safe Free Speed (RPM)
			Carbon Steel	Stainless Steel		
BNS-4	1/2"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-6	3/4"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-10	1"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			

► Solid End - Banded

Catalog Number	Dia.	Carbon Steel	Wire Size		Trim Length	Maximum Safe Free Speed (RPM)
			Carbon Steel	Stainless Steel		
BNS-4T	1/2"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-6T	3/4"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-10T	1"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			

► Solid End - Coated Cup Protector

Catalog Number	Dia.	Carbon Steel	Wire Size		Trim Length	Maximum Safe Free Speed (RPM)
			Carbon Steel	Stainless Steel		
BNS-4C	1/2"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-6C	3/4"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			
BNS-10C	1"	.006	.006SS	7/8"	20,000	
		.0104	.0104SS			
		.014	.014SS			
		.020	.020SS			

► **Circular End**

Catalog Number	Dia.	Wire Size		Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel		
BNF-10	1"	.006 .008 .020	.006SS .008SS		20,000
BNF-12	1 1/4"	.006 .008 .020	.006SS		20,000
BNF-14	1 1/2"	.006 .008 .014 .020	.006SS .008SS .020SS	20,000	
BNF-26	2 3/4"	.008 .014 .020	.008SS		15,000
BNF-30	3"	.006 .008 .0104 .014 .020	.006SS .008SS .020SS		15,000
BNF-40	4"	.008	.008SS		15,000

► **Knot Type End**

BNH-6	3/4"	.014 .020	.014SS .020SS	7/8"	20,000
BNH-12	1 1/8"	.014 .020	.014SS .020SS	7/8"	20,000

► **Knot Type End - Banded**

BNH-6T	3/4"	.014 .020	.014SS .020SS	7/8"	20,000
BNH-12T	1 1/8"	.014 .020	.014SS .020SS	7/8"	20,000

► **Knot Type End - Coated Cup Protector**

BNH-6C	3/4"	.014 .020	.014SS .020SS	7/8"	20,000
BNH-12C	1 1/8"	.014 .020	.014SS .020SS	7/8"	20,000

► **Small Diameter Cup**

BNH-16	1 3/4"	.006 .0104 .0118	.006SS .0118SS		10,000
BNH-26	2 3/4"	.0118			8,000

Add S to Cat. No. for Stainless Steel

Brush Characteristics

- Wide range of sizes and shapes
- Densely filled
- Long life
- Safe high speed operation

Typical Applications

- Weld cleaning
- Mold cleaning
- Polishing tools, discs and molds
- Spot facing

Operator Safety:

1. Always wear eye protection.
2. Observe maximum safe free speed requirements.
3. Keep machine guards in place.
4. Wear appropriate safety clothing.



BNF

This circular end type brush provides side cleaning action. Will not score the bottom of blind holes. Ideal for use on drill press or high speed portable tools.



BNH-6



BNH-6T



BNH-6C



BNH-16

Also available in Nylon or Brass fill material. For Abrasive Nylon see pg. 14



BMC

Constructed on 1/4" diameter stems. Eliminates the need for separate adapters when installing in chucks or collects of portable tools or drill presses. These brushes are ideal for internal pipe cleaning, carbon removal, flash removal, and light rust and scale removal.



BMF



BMF

► Mandrel Mounted Copper Center

Catalog Number	Dia.	Wire Size		Approx. Running Face Width	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel		
BMC-12	1 1/4"	.006 .008	.006SS .008SS	3/16"	25,000
BMC-13	1 3/8"	.006 .008 .0104	.006SS .008SS .0104SS	3/16"	25,000
BMC-14	1 1/2"	.006 .008 .0104	.006SS .008SS .0104SS	1/4"	25,000
BMC-16	1 3/4"	.006 .008 .0118 .014	.006SS .008SS .0118SS	5/16"	25,000
BMC-20	2"	.006 .008 .0104 .0118 .014	.006SS .008SS .0104SS	5/16"	25,000
BMC-25	2 1/2"	.008 .0104 .0118 .014		5/16"	25,000
BMC-30	3"	.008 .0104 .0118 .014		5/16"	25,000

Note: Speeds greater than 8,000 RPM do not enhance operation of brushes rated at 25,000 max. safe free speed.

► Mandrel Mounted Flared

Catalog Number	Dia.	Wire Size		Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel	
BMF-14	1 1/2"	.006 .008 .0104	.006SS .008SS .0104SS	25,000
BMF-16	1 3/4"	.006 .008 .0118 .014	.006SS .008SS .0118SS	25,000
BMF-20	2"	.006 .008 .0104 .0118 .014	.006SS .008SS .0104SS	25,000
BMF-25	2 1/2"	.008 .0104 .0118 .014		25,000
BMF-30	3"	.008 .0104 .0118 .014		25,000

Note: Speeds greater than 8,000 RPM do not enhance operation of brushed rated at 25,000 max. safe free speed.

► Pilot Bonding

Used for cleaning paint, dirt, rust, varnish from around rivet and bolt holes. By placing the pilot pin in the rivet or bolt hole the cleaning action is confined. Assures a positive electrical contact to eliminate static electricity buildup.

Catalog Number	Pilot Diameter	Brush Diameter	Wire Size	Brush Part Length
06721	3/32"	1/2"	.005SS	3/8"
06741	1/8"	1/2"	.005SS	3/8"
06761	5/32"	1/2"	.005SS	3/8"
06781	3/16"	1/2"	.005SS	3/8"
06801	1/4"	1/2"	.005SS	3/8"

Stem Diameter - 1/4". Max. Safe Free Speed 20,000 R.P.M.

► Encapsulated Brushes

Encapsulated wire wheel, cup and end brushes provide remarkably strong brushing action for fast burr removal and uniform surface blending. The encapsulation material creates the short wire trim configuration that gives the fast cutting action characteristic with minimum pressure. Substantially increased safety factor.

Avoid application to surfaces over 180°F. Excessive temperature will soften or melt the encapsulation material.

Type	Catalog Number	Diameter	Wire Size	Approx. Arbor Holes	Maximum Running Face Width	Safe Free Speed (RPM)
Wheel*	BDA-6E	6"	.014	2"	3/4"	4,500
Wheel*	BDM-4E	4"	.0104	3/8" - 1/2"	13/32"	6,000
Wheel	BDM-6E	6"	.0104	5/8" - 1/2"	7/16"	6,000
End	BNS-6E	3/4"	.0104 .020			20,000
Cup**	BUC-4E	4"	.014 .020	5/8" - 11		8,500
Cup**	BUC-6E	6"	.014 .020	5/8" - 11		6,000
Wheel	CE-1 1/2"	1 1/2"	.008 .0118	3/8"	9/32"	20,000
Wheel	CE-2	2"	.0104 .014	1/2"	9/32"	20,000
Wheel	CE-3	3"	.0118 .014	5/8"	3/8"	20,000

* Discontinued when stock is depleted
 **Special order only, minimum order



06721



BNS-6E



BUC-6E



CE2



Every major tool company has a series of mini grinders. Most of these have metric threaded spindles and the distributor has been required to carry an extensive inventory of mini grinder brushes. Not any more. Brush Research Manufacturing has a method to reduce this unnecessary inventory. An adaptor nut which fits any combination of mini brushes to mini grinders. All you need to carry are mini grinder brushes with a 5/8"-11 threaded arbor. Reduce you inventory and capital invested. Simply carry a few of the reusable adapter nuts and make life easier.

► **Knot Type Cup - Standard Twist, Single Row**

Catalog Number	Dia.	Wire Size		Arbor Hole	Trim Length	Maximum Safe Free Speed (RPM)
		Carbon Steel	Stainless Steel			
BUS-3	2 3/4"	.014		5/8" - 11	3/4"	12,500

► **Knot Type Cup - Cable Twist, Single Row**

BUSC-3	2 3/4"	.020		5/8" - 11	3/4"	14,000
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► **Crimped Wire Cup (Light Duty Use)**

BUC-3	3"	.014	.014SS	5/8" - 11	3/4"	14,000
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► **Knotted Wheel - Standard Twist**

BTS-4	4"	.014	.014SS	5/8" - 11	13/16"	20,000
		.020	.020SS	5/8" - 11	13/16"	20,000

► **Knotted Wheel - Cable Twist**

BTC-4	4"	.014	.014SS	5/8" - 11	13/16"	20,000
		.020	.020SS	5/8" - 11	13/16"	20,000

► **Knotted Wheel - Stringer Bead**

BSTCM-102	4"	.020	.020SS	5/8" - 11	7/8"	20,000
BSTCM-115	4 1/2"	.020		5/8" - 11	13/16"	12,500



BUS



BUSC



BUC



BTS



BTC



BSTCM



► **Threaded Adaptors**

Catalog Number	Arbor Adaptor	Stem Diameter	Max. Brush Diameter
AT1	1/2"	1/4"	4"
UA1	1/2"	1/4"	4"
UA4	3/8"	1/4"	4"
UA2	3/8"	1/4"	4"
UA3	1/4"	1/4"	2"
1300	1/2"	1/4"	4"



► **Metal Adaptors**

(AL Type) For use with BDH, BDA, TW Style & NY

Catalog Number	Diameter	Arbor Hole
AL 1/2	2"	1/2"
AL 5/8	2"	5/8"
AL 5/8 - 1/2	2"	5/8" - 1/2"
AL 3/4	2"	3/4"
AL 7/8	2"	7/8"
AL1	2"	1"
AL1 1/4	2"	1 1/4"
AL1 1/2	2"	1 1/2"



(MA Type) For use with Tampico & Abrasive Nylon Wheel Brushes

Catalog Number	Fits Inside Diameter	Stocked Arbor Hole	Maximum Arbor Hole
MA3	3 1/4"	5/8"	2"
MA4	4 1/4"	5/8"	2"
MA5	5 1/4"	5/8"	2"



► **Snap-Out Adaptors**

Specify arbor hole size on Plastic Snap-Out Adaptors

Catalog Number	Diameter	Arbor Hole	For Use With Single Section Brushes
SA-1214	1/2"	1/4"	Copper Center Brushes
SA-1238	1/2"	3/8"	Copper Center Brushes Knot type 3" and 4" dia.
SA-5812	5/8"	1/2"	Copper Center and Wheel thru 8" dia. Knot type 6" thru 8" dia.



► **Threaded Nut Adaptors**

Catalog Number	O.D. Thread	"Adapt To" Thread
TNA-3824	5/8" - 11	3/8" - 24
TNA-10125	5/8" - 11	M- 10 x 1.25
TNA-10150	5/8" - 11	M- 10 x 1.50





► Cross Hole Deburring - Series 81
All Stainless Steel 81 – A

Catalog No. (Dia.)	Wire Size	Brush Part	Stem Dia.	Overall Length
81-A .024	.003	1/4"	.015	3"
81-A .032	.002	5/8"	.016	3"
81-A .047	.002	3/4"	.026	3"
81-A .054	.002	3/4"	.026	3"
81-A .063	.003	3/4"	.034	3"
81-A .079	.003	3/4"	.034	3"
81-A .094	.003	3/4"	.043	3"
81-A .109	.003	3/4"	.055	3"
81-A .125	.003	1"	.055	3"
81-A .142	.003	1"	.072	3"
81-A .156	.003	1"	.072	3"
81-A .172	.003	1"	.083	3"
81-A .189	.003	1"	.083	3"
81-A 1mm	.002	5/8"	.016	3"
81-A 1.5mm	.002	5/8"	.026	3"
81-A 2mm	.003	3/4"	.034	3"

Catalog No. (Dia.)	Wire Size	Brush Part	Stem Dia.	Overall Length
81-A 2.5mm	.003	3/4"	.043	3"
81-A 3mm	.003	1"	.055	3"
81-A 3.5mm	.003	1"	.055	3"
81-A 4mm	.003	1"	.072	3"
81-A 4.5mm	.003	1"	.083	3"
81-A 5mm	.003	1"	.083	3"
81-A 5.5mm	.003	1"	.110	3"
81-A 6mm	.003	1"	.110	3"
81-A 6.5	.003	1"	.110	3"
81-B 7/32	.003	1 1/2"	.097	3"
81-B 1/4	.003	1 1/2"	.110	3"
81-B 5/16	.004	1 1/2"	.125	3"
81-B 3/8	.004	1 1/2"	.140	3"
81-B 7/16	.004	1 1/2"	.140	3"
81-B 1/2	.005	1 1/2"	.168	3"

► Open Deburring - Series 82

Miniature Wheels

Catalog Number	Brush Dia.	Fill	Hole Dia.
82A-401	3/4"	medium bristle	1/8"
82A-401-1	1"	medium bristle	1/8"

Catalog Number	Brush Dia.	Fill	Hole Dia.
82A-402-1	1"	stiff bristle	1/8"
82A-402-125	1 1/4"	stiff bristle	1/8"

Miniature Cups

Catalog Number	Approx Dia. (at Flared End)	Fill	Shank
82B-403	9/16"	.005 crimped steel	3/32"
82B-404	1/2"	.003 crimped steel	3/32"
82B-405	5/8"	.003 straight steel	1/8"

Catalog Number	Approx Dia. (at Flared End)	Fill	Shank
82B-406	1/2"	.003 straight Brass	3/32"
82B-407-1	9/16"	stiff bristle	1/8"
82B-407-3	1/2"	stiff bristle	3/32"

Mandrel Mounted

Catalog Number	Dia.	Fill	Shank	Thickness
82C-408	3/4"	.003 cr. steel	1/8"	single
82C-409	3/4"	.005 cr. steel	1/8"	double
82C-410	3/4"	.005 cr. steel	3/32"	double
82C-411	1"	.003 cr. steel	3/32"	single
82C-412	1"	.003 cr. steel	1/8"	single
82C-413	1"	.005 cr. steel	3/32"	single
82C-414	1"	.005 cr. steel	1/8"	single
82C-415	3/4"	.003 cr. brass	3/32"	single
82C-416	3/4"	.005 cr. brass	1/8"	single

Catalog Number	Dia.	Fill	Shank	Thickness
82C-417	1"	.003 lv. brass	3/32"	single
82C-418	1"	.005 cr. brass	3/32"	double
82C-419	1"	.005 cr. brass	1/8"	single
82C-420	3/4"	stiff bristle	3/32"	single
82C-421	3/4"	stiff bristle	1/8"	single
82C-422	1"	stiff bristle	3/32"	single
82C-427	3/4"	.005 cr. stainless	1/8"	single
82C-428	1"	.005 cr. stainless	1/8"	double

Miniature End

Catalog Number	Dia.	Fill	Shank	Thickness
82D-429	3/16"	.003 straight steel	1/8"	2" OAL
82D-430	3/16"	.003 straight brass	1/8"	2" OAL

Catalog Number	Dia.	Fill	Shank	Thickness
82D-431	3/16"	stiff bristle	1/8"	2" OAL
82D-432	3/16"	soft bristle	1/8"	2" OAL



► Butterfly Type

Carbon Steel Wire Fill

Catalog No.	Dia.	Fill Size	Brush Part	Stem Dia.
BR- 1/4	1/4"	.003 .006	9/16"	3/32"
BR- 9/32	9/32"	.003 .006	9/16"	3/32"
BR- 5/16	5/16"	.003 .006	9/16"	3/32"
BR- 11/32	11/32"	.003 .006	9/16"	3/32"
BR- 3/8	3/8"	.003 .006 .008	9/16"	3/32"
BR- 13/32	13/32"	.003 .006 .008	9/16"	3/32"
BR- 7/16	7/16"	.003 .006 .008	9/16"	3/32"
BR- 15/32	15/32"	.003 .006 .008	9/16"	3/32"
BR- 1/2	1/2"	.003 .006 .008	9/16"	3/32"
BR- 9/16	9/16"	.003 .006 .008	5/8"	1/8"
BR- 5/8	5/8"	.003 .006 .008	5/8"	1/8"
BR- 3/4	3/4"	.003 .006 .008	5/8"	1/8"
BR- 7/8	7/8"	.006 .008	5/8"	1/8"
BR- 15/16	15/16"	.006 .008	5/8"	1/8"
BR- 1	1"	.006 .008	5/8"	1/8"
BR- 1 1/16	1 1/16"	.006 .008	5/8"	1/8"
BR- 1 1/8	1 1/8"	.006 .008	5/8"	1/8"

Catalog No.	Dia.	Fill Size	Brush Part	Stem Dia.
BR- 1 3/16	1 3/16"	.006 .008	5/8"	1/8"
BR- 1 1/4	1 1/4"	.006 .008	5/8"	1/8"
BRR- 3/8	3/8"	.006	5/8"	1/8"
BRR- 7/16	7/16"	.006	5/8"	1/8"
BRR- 1/2	1/2"	.006 .008	5/8"	1/8"

Adaptors:
BR-8H Adaptor for 3/32" stem.
BR-12H Adaptor for 1/8" stem.
Order by Catalog Number and Fill Size

Stainless Steel Wire Fill

BS- 1/4	1/4"	.005	9/16"	3/32"
BS- 5/16	5/16"	.005	9/16"	3/32"
BS- 3/8	3/8"	.005	9/16"	3/32"
BS- 7/16	7/16"	.005	9/16"	3/32"
BS- 1/2	1/2"	.005	9/16"	3/32"
BS- 9/16	9/16"	.005	5/8"	1/8"
BS- 5/8	5/8"	.005	5/8"	1/8"
BS- 3/4	3/4"	.005	5/8"	1/8"
BS- 7/8	7/8"	.005	5/8"	1/8"
BS- 1	1"	.005	5/8"	1/8"
BS- 1 1/4	1 1/4"	.005	5/8"	1/8"

Brass Wire Fill

BB- 1/4	1/4"	.003 .005	9/16"	3/32"
BB- 5/16	5/16"	.003 .005	9/16"	3/32"
BB- 3/8	3/8"	.003 .005	9/16"	3/32"
BB- 7/16	7/16"	.005	9/16"	3/32"
BB- 1/2	1/2"	.005	9/16"	3/32"
BB- 7/8	7/8"	.005	5/8"	1/8"

Nylon Fill

BN- 1/4	1/4"	.010	9/16"	3/32"
BN- 3/8	3/8"	.010	5/8"	1/8"
BN- 1/2	1/2"	.010	5/8"	1/8"
BN- 3/4	3/4"	.010	5/8"	1/8"
BN- 7/8	7/8"	.010	5/8"	1/8"



► Series 83

Brush Dia.	Fill Sizes				Brush Part	Overall Length	Catalog Numbers			
	C.S.	S.S.	Brass	Nylon			Stainless	Carbon	Brass	Nylon
1/4"	.006	.004	.005	.008	1 1/2"	4 1/2"	83-S250	83-C250	83-B250	83-N250
5/16"	.006	.004	.005	.010	1 1/2"	4 1/2"	83-S312	83-C312	83-B312	83-N312
3/8"	.006	.005	.005	.010	1 1/2"	4 1/2"	83-S375	83-C375	83-B375	83-N375
7/16"	.006	.005	.005	.010	1 1/2"	5"	83-S437	83-C437	83-B437	83-N437
1/2"	.006	.006	.005	.010	1 1/2"	5"	83-S500	83-C500	83-B500	83-N500
9/16"	.006	.006	.005	.010	1 1/2"	5"	83-S562	83-C562	83-B562	83-N562
5/8"	.008	.008	.008	.012	1 3/4"	5"	83-S625	83-C625	83-B625	83-N625
3/4"	.008	.008	.008	.014	1 3/4"	5"	83-S750	83-C750	83-B750	83-N750
7/8"	.008	.008	.008	.014	2"	6"	83-S875	83-C875	83-B875	83-N875
1"	.008	.008	.008	.017	2"	6"	83-S1000	83-C1000	83-B1000	83-N1000
1 1/4"	.010	.010	.010	.022	2 1/2"	6"	83-S1250	83-C1250	83-B1250	83-N1250
1 1/2"	.010	.010	.010	.022	2 1/2"	6"	83-S1500	83-C1500	83-B1500	83-N1500
1 3/4"	.010	.010	.010	.022	3"	7"	83-S1750	83-C1750	83-B1750	83-N1750
2"	.012	.012	.012	.028	3"	7"	83-S2000	83-C2000	83-B2000	83-N2000





► Series 84 - For Thru Holes

Ring handles may be cut off for power applications.

Dia.	Brass	Fill Sizes					Catalog Numbers				
		Carbon Steel	6-12 Nylon	Stainless Steel	Brush Part	Overall	Type 302 Stainless	Hi-Temp. Carbon	80/20 Brass	6-12 Nylon	Natural Bristle
1/8"	.003	.003	.005	.003	1 1/4"	8"	84-S125	84-C125	84-B125	84-N125	84-H125
3/16"	.003	.003	.005	.003	1 1/2"	8"	84-S187	84-C187	84-B187	84-N187	84-H187
1/4"	.005	.006	.008	.004	2"	8"	84-S250	84-C250	84-B250	84-N250	84-H250
5/16"	.005	.006	.008	.004	2"	8"	84-S312	84-C312	84-B312	84-N312	84-H312
3/8"	.005	.006	.010	.004	2"	8"	84-S375	84-C375	84-B375	84-N375	84-H375
7/16"	.005	.006	.010	.004	2 1/2"	10"	84-S437	84-C437	84-B437	84-N437	84-H437
1/2"	.005	.006	.012	.005	2 1/2"	10"	84-S500	84-C500	84-B500	84-N500	84-H500
9/16"	.005	.006	.012	.006	2 1/2"	10"	84-S562	84-C562	84-B562	84-N562	84-H562
5/8"	.008	.008	.014	.008	2 1/2"	10"	84-S625	84-C625	84-B625	84-N625	84-H625
3/4"	.008	.008	.017	.008	2 1/2"	10"	84-S750	84-C750	84-B750	84-N750	84-H750
7/8"	.010	.010	.017	.010	3"	12"	84-S875	84-C875	84-B875	84-N875	84-H875
1"	.010	.010	.017	.010	3"	12"	84-S1000	84-C1000	84-B1000	84-N1000	84-H1000
1 1/8"	.010	.010	.017	.010	3"	12"	84-S1125	84-C1125	84-B1125	84-N1125	84-H1125
1 1/4"	.010	.010	.022	.010	3"	12"	84-S1250	84-C1250	84-B1250	84-N1250	84-H1250
1 3/8"	.010	.010	.022	.010	3"	12"	84-S1375	84-C1375	84-B1375	84-N1375	84-H1375
1 1/2"	.010	.010	.022	.010	3"	12"	84-S1500	84-C1500	84-B1500	84-N1500	84-H1500
1 5/8"	.010	.010	.022	.010	3 1/2"	18"	84-S1625	84-C1625	84-B1625	84-N1625	84-H1625
1 3/4"	.012	.012	.022	.012	3 1/2"	18"	84-S1750	84-C1750	84-B1750	84-N1750	84-H1750
2"	.012	.012	.022	.012	3 1/2"	18"	84-S2000	84-C2000	84-B2000	84-N2000	84-H2000
2 1/4"	.012	.012	.025	.012	4"	18"	84-S2250	84-C2250	84-B2250	84-N2250	84-H2250
2 1/2"	.012	.012	.025	.012	4"	18"	84-S2500	84-C2500	84-B2500	84-N2500	84-H2500
2 3/4"	.012	.012	.025	.012	4"	18"	84-S2750	84-C2750	84-B2750	84-N2750	84-H2750
3"	.012	.012	.025	.012	4"	18"	84-S3000	84-C3000	84-B3000	84-N3000	84-H3000

► Metric Conversion Tables

Fractional Inches to Decimal Inches and Millimeters			Inches to Millimeters			Millimeters to Inches									
in.	in. decimi.	mm	in.	in. decimi.	mm	ins.	mm	mm	ins.	mm	ins.				
1/64	0.015625	0.397	33/64	0.515625	13.097	1 1/32	26.194	2 1/32	51.594	1/4	0.0098	30	0.0098	61	2.4016
1/32	0.03125	0.794	17/32	0.53125	13.494	1 1/16	26.988	2 1/16	52.388	1/2	0.0197	31	1.2205	62	2.4409
3/64	0.046875	1.191	35/64	0.546875	13.891	1 3/32	27.781	2 3/32	53.181	3/4	0.0295	32	1.2598	63	2.4803
1/16	0.0625	1.588	9/16	0.5625	14.288	1 1/8	28.575	2 1/8	53.975	1	0.0394	33	1.2992	64	2.5197
5/64	0.078125	1.984	37/64	0.578125	14.684	1 5/32	29.369	2 5/32	54.769	2	0.0787	34	1.338	65	2.5591
3/32	0.09375	2.381	19/32	0.59375	15.081	1 3/16	30.162	2 3/16	55.562	3	0.1181	35	1.3780	66	2.5984
7/64	0.109375	2.778	39/64	0.609375	15.478	1 7/32	30.956	2 7/32	56.356	4	0.1575	36	1.4173	67	2.6378
1/8	0.125	3.175	5/8	0.625	15.875	1 1/4	31.750	2 1/4	57.150	5	0.1969	37	1.4567	68	2.6772
9/64	0.140625	3.572	41/64	0.640625	16.272	1 9/32	32.544	2 9/32	57.944	6	0.2362	38	1.4961	69	2.7165
5/32	0.15625	3.969	21/32	0.65625	16.669	1 5/16	33.338	2 5/16	58.738	7	0.2756	39	1.5354	70	2.7559
11/64	0.171875	4.366	43/64	0.671875	17.066	1 11/32	34.131	2 11/32	59.531	8	0.3150	40	1.5748	71	2.7953
3/16	0.1875	4.762	11/16	0.6875	17.462	1 3/8	34.925	2 3/8	60.325	9	0.3543	41	1.6142	72	2.8346
13/64	0.203125	5.159	45/64	0.703125	17.859	1 13/32	35.719	2 13/32	61.119	10	0.3937	42	1.6535	73	2.8740
7/32	0.21875	5.556	23/32	0.71875	18.256	1 7/16	36.512	2 7/16	61.912	11	0.4331	43	1.6929	74	2.9134
15/64	0.234375	5.953	47/64	0.734375	18.653	1 15/32	37.306	2 15/32	62.706	12	0.4724	44	1.7323	75	2.9528
1/4	0.25	6.350	3/4	0.75	19.050	1 1/2	38.100	2 1/2	63.500	13	0.5118	45	1.7717	76	2.9921
17/64	0.265625	6.747	49/64	0.765625	19.447	1 17/32	38.894	2 17/32	64.294	14	0.5512	46	1.8110	77	3.0315
9/32	0.28125	7.144	25/32	0.78125	19.844	1 9/16	38.688	2 9/16	65.088	15	0.5906	47	1.8504		
19/64	0.296875	7.541	51/64	0.796875	20.241	1 19/32	40.481	2 19/32	65.881	16	0.6299	48	1.8898		
5/16	0.3125	7.938	13/16	0.8125	20.638	1 5/8	41.275	2 5/8	66.675	17	0.6693	49	1.9291		
21/64	0.328125	8.334	53/64	0.828125	21.034	1 21/32	42.069	2 21/32	67.469	18	0.7087	50	1.9685		
11/32	0.34375	8.731	27/32	0.84375	21.431	1 11/16	42.862	2 11/16	68.262	19	0.7480	51	2.0079		
23/64	0.359375	9.128	55/64	0.859375	21.828	1 23/32	43.656	2 23/32	69.056	20	0.7874	52	2.0472		
3/8	.375	9.525	7/8	.875	22.225	1 3/4	44.450	2 3/4	69.850	21	0.8268	53	2.0866		
25/64	0.390625	9.922	57/64	0.890625	22.622	1 25/32	45.244	2 25/32	70.644	22	0.8661	54	2.1260		
13/32	0.40625	10.319	29/32	0.90625	23.019	1 13/16	46.038	2 13/16	71.438	23	0.9055	55	2.1654		
27/64	0.421875	10.716	59/64	0.921875	23.416	1 27/32	46.831	2 27/32	72.231	24	0.9449	56	2.2047		
7/16	0.4375	11.112	15/16	0.9375	23.811	1 7/8	47.625	2 7/8	73.025	25	0.9843	57	2.2441		
28/64	0.453125	11.509	61/64	0.953125	24.209	1 29/32	48.419	2 29/32	73.819	26	1.0236	58	2.2835		
31/32	0.46875	11.906	31/32	0.96875	24.606	1 15/16	49.212	2 15/16	74.612	27	1.0630	59	2.3228		
31/64	0.484375	12.303	63/64	0.984375	25.003	1 31/32	50.006	2 31/32	75.406	28	1.1024	60	2.3622		
1/2	0.5	12.700	1	1.0	25.400	2	50.800	3	76.200	29	1.1417				

► **Series 85 Bottom End - For Closed Holes**

Dia.	Carbon Steel	Stainless Steel	6-12 Nylon	Brush Part	Overall	Catalog Numbers					
						Type 302 Stainless	Hi Temp. Carbon	80/20 Brass	6-12 Nylon	Natural Bristle	
1/8"		.002		1"	4"	85-S2-125					
1/8"	.003	.003	.005	1"	4"	85-S3-125		85-B125	85-N125	85-H125	
5/32"	.003	.003	.005	1"	4"	85-S156		85-B156	85-N156	85-H156	
3/16"	.003	.003	.005	1"	4"	85-S187		85-B187	85-N187	85-H187	
7/32"	.003	.003	.008	1"	4"	85-S219		85-B219	85-N219	85-H219	
1/4"	.006	.005	.004	.008	1 1/4"	4 1/2"	85-S250	85-C250	85-B250	85-N250	85-H250
9/32"	.006	.005	.004	.008	1 1/4"	4 1/2"	85-S281	85-C281	85-B281	85-N281	85-H281
5/16"	.006	.005	.004	.008	1 1/4"	4 1/2"	85-S312	85-C312	85-B312	85-N312	85-H312
11/32"	.006	.005	.004	.008	1 1/4"	4 1/2"	85-S344	85-C344	85-B344	85-N344	85-H344
3/8"	.006	.005	.004	.010	1 1/4"	4 1/2"	85-S375	85-C375	85-B375	85-N375	85-H375
13/32"	.006	.005	.004	.010	1 1/4"	4 1/2"	85-S406	85-C406	85-B406	85-N406	85-H406
7/16"	.006	.005	.004	.012	1 1/4"	4 1/2"	85-S437	85-C437	85-B437	85-N437	85-H437
15/32"	.006	.005	.005	.012	1 1/4"	4 1/2"	85-S469	85-C469	85-B469	85-N469	85-H469
1/2"	.006	.005	.005	.012	1 1/2"	5"	85-S500	85-C500	85-B500	85-N500	85-H500
9/16"	.006	.005	.006	.014	1 1/2"	5"	85-S562	85-C562	85-B562	85-N562	85-H562
5/8"	.008	.008	.008	.014	1 1/2"	5"	85-S625	85-C625	85-B625	85-N625	85-H625
11/16"	.008	.008	.008	.014	1 1/2"	5"	85-S687	85-C687	85-B687	85-N687	85-H687
3/4"	.008	.008	.008	.017	1 1/2"	5"	85-S750	85-C750	85-B750	85-N750	85-H750
13/16"	.010	.010	.010	.017	1 1/2"	6"	85-S812	85-C812	85-B812	85-N812	85-H812
7/8"	.010	.010	.010	.017	1 1/2"	6"	85-S875	85-C875	85-B875	85-N875	85-H875
15/16"	.010	.010	.010	.017	1 1/2"	6"	85-S937	85-C937	85-B937	85-N937	85-H937
1"	.010	.010	.010	.017	2"	6"	85-S1000	85-C1000	85-B1000	85-N1000	85-H1000
1 1/4"	.010	.010	.010	.022	2 1/2"	6 1/2"	85-S1250	85-C1250	85-B1250	85-N1250	
1 1/2"	.010	.010	.010	.022	2 1/2"	6 1/2"	85-S1500	85-C1500	85-B1500	85-N1500	
1 3/4"	.012	.012	.012	.022	3"	7"	85-S1750	85-C1750	85-B1750	85-N1750	
2"	.012	.012	.012	.022	3"	8"	85-S2000	85-C2000	85-B2000	85-N2000	
2 1/2"	.012	.012	.012	.025	3 1/2"	9"	85-S2500	85-C2500	85-B2500	85-N2500	
3"	.012	.012	.012	.025	4"	10"	85-S3000	85-C3000	85-B3000	85-N3000	



Usually cut for power
 Add "RH" to Cat No. for Ring Handle.
 Add "WH" to Cat.No. for Plastic Handle
 Heavy Duty Style Available on Request
 Consult factory for Price and Availability

► **Series 86 - Tufted End Brushes**

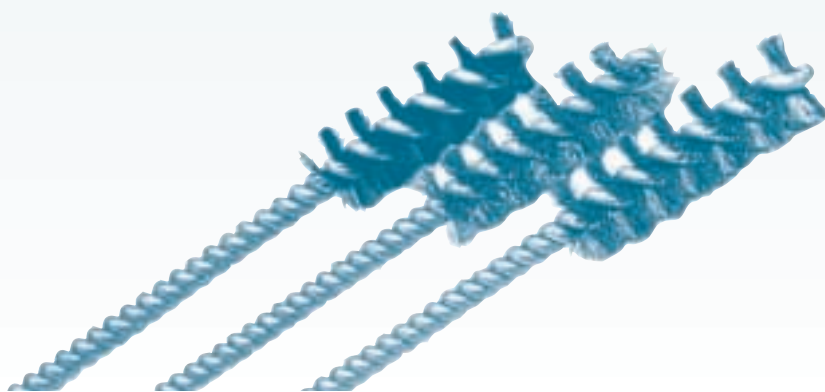
Available on Special Order.

Used in clean-room operations.
 Made with loop handles and stainless steel or nylon fill.
 Tied tufts prevent scratches by the stem ends.
 Contact factory with your specification.

► **Series 87 - Center Brushes**

Available on Special Order.

Power one end - Bearing the other.
 Use in automated set-ups.
 Contact factory with your specifications.





► Series 88 - Tapered Brushes

Available on Special Order.

Custom made to your tapered requirements. For power operation or handle may be added for hand use. Contact factory with your specifications

► Series 89 - Condenser Tube

1/2" to 4" diameters

Four wire single spiral with or without pipe nipple. Recommended for removing soft deposits (mud, algae etc.) in straight tubes. Available in Stainless Steel, Carbon Steel, 6-12 Nylon and Brass.

5/16"-18 I.D. threaded nipple on 1/2" diameter.

1/8" Pipe Nipple on 3/4" diameter.

1/4" Pipe Nipple on 7/8" diameter and larger.

Pipe nipples will be attached unless otherwise specified

► Series 90—Flue Brushes

Four wire, Double Spiral, with or without nipple.

5/16"-18 I.D. threaded nipple on 1/2" diameter.

1/8" Pipe Nipple on 3/4" diameter.

1/4" Pipe Nipple on 7/8" diameter and larger.

Nipples will be attached unless otherwise specified.

Actual Brush Dia.	BP	OAL	ALL 302 Stainless	Stainless Fill	Hi-Temp. Carbon St.	Wire Size	6-12 Nylon	Nylon Size	Brass Fill	Wire Size
1/2"	4"	7"	90-SS500	90-S500	90-C500	.008	90-N500	.017	90-B500	.008
5/8"	4"	7"	90-SS625	90-S625	90-C625	.010	90-N625	.017	90-B625	.010
3/4"	4"	7"	90-SS750	90-S750	90-C750	.010	90-N750	.017	90-B750	.010
7/8"	4"	7"	90-SS875	90-S875	90-C875	.010	90-N875	.017	90-B875	.010
1"	4 1/2"	7 1/2"	90-SS1000	90-S1000	90-C1000	.012	90-N1000	.022	90-B1000	.012
1 1/4"	4 1/2"	7 1/2"	90-SS1250	90-S1250	90-C1250	.012	90-N1250	.022	90-B1250	.012
1 1/2"	4 1/2"	7 1/2"	90-SS1500	90-S1500	90-C1500	.012	90-N1500	.028	90-B1500	.012
1 3/4"	4 1/2"	7 1/2"	90-SS1750	90-S1750	90-C1750	.012	90-N1750	.028	90-B1750	.012
2"	4 1/2"	7 1/2"	90-SS2000	90-S2000	90-C2000	.012	90-N2000	.028	90-B2000	.012
2 1/4"	4 1/2"	7 1/2"	90-SS2250	90-S2250	90-C2250	.012	90-N2250	.032	90-B2250	.012
2 1/2"	4 1/2"	7 1/2"	90-SS2500	90-S2500	90-C2500	.012	90-N2500	.032	90-B2500	.012
2 3/4"	4 1/2"	7 1/2"	90-SS2750	90-S2750	90-C2750	.012	90-N2750	.032	90-B2750	.012
3"	4 1/2"	7 1/2"	90-SS3000	90-S3000	90-C3000	.014	90-N3000	.032	90-B3000	.012
3 1/2"	4 1/2"	7 1/2"	90-SS3500	90-S3500	90-C3500	.014	90-N3500	.045	90-B3500	.018
4"	5"	8"	90-SS4000	90-S4000	90-C4000	.016	90-N4000	.045	90-B4000	.018

► Series 92 - Adaptor Type

8-32 Thread

Actual Brush Dia.	Stainless Fill	Hi-Temp. Carbon St.	6-12 Nylon	Brass Fill
5/16"	92-S312	92-C312	92-N312	92-B312
11/32"	92-S344	92-C344	92-N344	92-B344
3/8"	92-S375	92-C375	92-N375	92-B375
7/16"	92-S437	92-C437	92-N437	92-B437
1/2"	92-S500	92-C500	92-N500	92-B500
9/16"	92-S562	92-C562	92-N562	92-B562
19/32"	92-S594	92-C594	92-N594	92-B594



► Strip Brushes

Catalog Number	Overall Trim	Fill Material	Length	Channel
S-15-06	1 1/2"	.006 Crimped Steel Wire	72"	7
S-15-08	1 1/2"	.008 Crimped Steel Wire	72"	7
S-15-10	1 1/2"	.010 Crimped Steel Wire	72"	7
S-15-14	1 1/2"	.014 Crimped Steel Wire	72"	7
S-25-06	2 1/2"	.006 Crimped Steel Wire	72"	7
S-25-10	2 1/2"	.010 Crimped Steel Wire	72"	7
S-25-14	2 1/2"	.014 Crimped Steel Wire	72"	7
S-2-T	2"	Tampico	72"	7
S-3-T	3"	Tampico	72"	7
S-2-08N	2"	.008 Crimped Black Nylon	72"	7
S-2-10N	2"	.010 Crimped Black Nylon	72"	7
S-2-12N	2"	.012 Crimped Black Nylon	72"	7
S-2-14N	2"	.014 Crimped Black Nylon	72"	7
S-3-20N	3"	.022 Crimped Black Nylon	72"	7
S-1-HH	1"	Stiff Black Horsehair	72"	7
S-25-HH	2 1/2"	Stiff Black Horsehair	72"	7
S-35-Poly Mix	3 1/2"	.014/.030 Polypropylene Mix	46 1/2"	7
S-5-35 Poly	5"	.035 Crimped Polypropylene	60"	12

Minimums may apply.

► Custom Strip Brush Specifications

Please Provide All Dimensions

Application: _____

Quantity: _____

A. Brush Length: _____ E. Backing Height: _____

B. Brush Overall Trim: _____ F. Backing Width: _____

C. Brush Face (if applicable): _____ G. Backing Material: _____

D. Fill Material

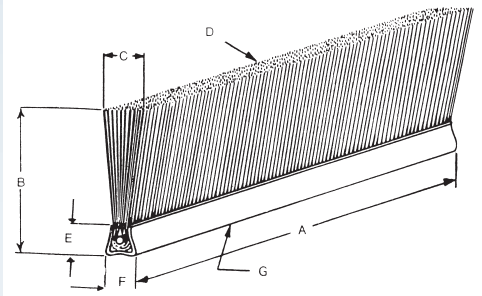
Type: _____ Diameter: _____ H. Backing Ends Deburred: _____
(nylon, poly, wire, etc.) (Yes or No)

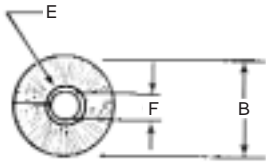
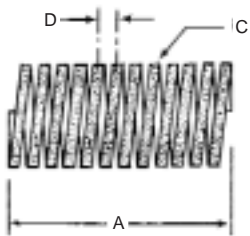
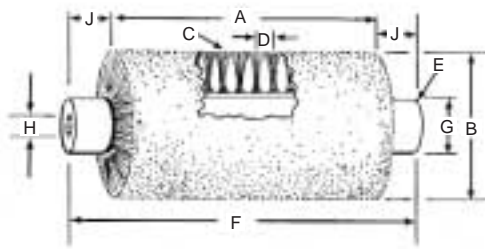
Color: _____ Style: _____
(crimped or level)

Strip Sizes Available

Strip Sizes Available

Channel No.	Unformed Strip Width	Approximate Formed Dimensions	
		Width	Height
12	1 1/2"	35/64"	9/16"
10	1 1/4"	7/16"	5/32"
8	1"	5/16"	3/8"
7	7/8"	5/16"	5/16"
5	5/8"	7/32"	1/4"
4	1/2"	3/16"	3/16"
3	3/8"	5/32"	5/32"





► Radial Coil Brushes

Please Provide All Dimensions

Application: _____

Quantity: _____

A. Brush Face: _____ I. End Fixtures: Steel Aluminum

B. Brush O.D.: _____ Stainless Other

C. Fill Material: _____ J. Set back (if required): _____

Type: _____ Diameter: _____ K. Method Brush is Fastened to Core:
(nylon, poly, wire, etc.) Tangs J-Bolts Weld

Color: _____ Style: _____ Other
(crimped or level) L. Operating RPM: _____

D. Coil Spacing _____ M. Wet or Dry Application: _____

E. Core Material: Steel Aluminum Stainless Other N. Additional Information: _____

F. Core Length: _____

G. Core O.D.: _____

H. Bore & Key Size: _____

► Spiral Wound Brush - Coil Only

Application: _____

Quantity: _____

A. Brush Face: _____ F. Brush I.D.: _____

B. Brush O.D.: _____ G. Operating RPM: _____

C. Fill Material: _____ H. Wet or Dry Application: _____

Type: _____ Diameter: _____ I. Additional Information: _____
(nylon, poly, wire, etc.)

Color: _____ Style: _____
(crimped or level)

D. Coil Spacing _____

E. Backing Strip Size & Material: _____

► Curved Handle

Catalog Number	Number of Rows	Block Width	Overall Length	Trim Length
Carbon Steel Wire				
B-40	3 x 19	1"	13 3/4"	1 3/16"
B-41	4 x 19	1 1/8"	13 3/4"	1 3/16"
B-47 w/ scraper	4 x 19	1 1/8"	14"	1 3/16"
B-25	3 x 10	7/8"	12"	1 3/16"
Stainless Steel Wire				
B-740	3 x 19	1"	13 3/4"	1 3/16"
B-741	4 x 19	1 1/8"	13 3/4"	1 3/16"
Bronze Wire				
B-840	3 x 19	1"	13 3/4"	1 3/16"
Nylon				
BN-49	4 x 19	1 1/8"	13 3/4"	1"
Tampico Fibre				
BT-49	4 x 18	1 1/8"	13 3/4"	1"
Platers Fine Wire Brushes				
.006 Stainless Steel Wire				
B-39S	3 x 19	14" Curved handle		
B-49S	4 x 19	14" Curved handle		
B-46S	4 x 16	10" Shoe handle		
.006 Brass Wire				
B-39B	3 x 19	13 3/4" Curved handle		
B-49B	4 x 19	13 3/4" Curved handle		
B-46B	4 x 16	10 1/4" Shoe handle		

► Shoe Handle

Carbon Steel Wire				
B-688	1 x 16	3/8"	10"	3/4"
B-44	4 x 16	1 1/8"	10 1/4"	1 3/16"
B-52	2 x 17	1/2"	10"	1 1/4"
Stainless Steel Wire				
B-744	4 x 16	1 1/8"	10 1/4"	1 3/16"
Bronze Wire				
B-844	4 x 16	1 1/8"	10 1/4"	1 3/16"

► Block Brush

Fine Brass Scrub Brush				
B-210	4 x 11	1 1/8"	3 1/4"	9/16"
B-767 HH Border	10 x 16	2 1/2"	4 1/4"	3/4"
Stiff Brass Scrub Brush, paddle handle				
B-61	9 x 10	2 5/8"	8 7/8"	5/8"
Chip Removal Brush, carbon steel wire, loop handle				
B-200		1 1/4"	5 1/2"	1 1/2"

► Tooth Brush Style

Hand-Drawn-Wire Fill

Handle Material	Handle Width	.006 Stainless	.018 Nylon	.006 Brass
No. 93-A Laminated	1/4"	93A-S250	93A-N250	93A-B250
Hardwood Plywood	3/8"	93A-S375	93A-N375	93A-B375
	1/2"	93A-S500	93A-N500	93A-B500

Staple Set in Poly Handle-7 1/4" OAL

No. 93-AP	.006 Stainless Wire fill
No. 93 APB	.006 Brass fill
No. 93 APH	Horsehair fill
No. 93-APP	.006 Phosphor Bronze fill
No. 93 APH	Horsehair fill
No. 93-APN	.012 Nylon fill

Staple Set in Wood Handle

No. 93-AW	.006SS Fill
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B-47



B-744



B-61



B-200



93-A

93-AP



► Garage & Patio Sweeping

Catalog Number	Block Size	Fill Material	Trim Length	Suggested Handle
Ruffneck-18	18"	Palmyra	4"	H-19
Ruffneck-24	24"	Palmyra	4"	H-19

► Fine Sweeping

Breakers-Tampico	18"	Tampico	3"	H-250
Weldon	24"	Tampico Center w/ Synthetic and horsehair border	3"	H-250

► Deck Brushes

Roma-10	10"	Palmyra	2"	H-25
Roma-14 w/squeegee	14"	Palmyra	2"	H-25

► Window Brushes

Niagra	8"	Horsehair blend	2 1/2"	H-25
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► Scrub Brushes

Eveready	8"	Palmyra	1"	
Bluejay	9"	White Tampico	1 1/8"	
Sea Gull S/H	5 1/2 x 5 1/2"	Palmyra	2"	
Sea Gull L/H	5 1/2 x 5 1/2"	Palmyra	2"	
622-S/H	5 x 5"	Prolene Plastic	2"	
622-L/H	5 x 5"	Prolene Plastic	2"	

► Counter Brush

King-8	8"	Horsehair blend	2 1/2"	
--------	----	-----------------	--------	--

► Handles

All Handles Sold Separately - Handles suggested are 5"

Catalog Number	Diameter	Length	Handle Finish	Handle End
H-250	15/16"	5'	clear lacquered	threaded metal tip
H-251	15/16"	6'	clear lacquered	threaded metal tip
H-25	1 1/8"	5'	sanded finish	tapered end
H-30	1 1/8"	6'	sanded finish	tapered end
H-19	15/16"	5'	clear lacquered	threaded end

► Natural Bristle Varnish Brushes

Catalog Number	Size	Length	Width	Pack	Trim Style	Handle	Ferrule
601W	* 1/2"	1 3/4"	5/16"	36	Square	Unfinished Wood	Bright Tin
	* 2 1/2"	1 3/4"	5/16"	24			
	* 3"	1 11/16"	5/16"	24			
	* 4"	2"	11/16"	6			
601G	1/2"	1 1/2"	1/4"	36	Square	Unfinished Wood	Bright Tin
	1"	1 5/8"	5/16"	36			
	1 1/2"	1 5/8"	5/16"	36			
	2"	1 5/8"	5/16"	36			
	2 1/2"	1 3/4"	3/8"	12			
	3"	1 3/4"	3/8"	12			
	4"	1 3/4"	3/8"	12			



► Black China Bristle Sash Brushes

Catalog Number	Size	Length	Width	Pack	Trim Style	Handle	Ferrule
1292	* 1 1/2"	2 1/4"	7/16"		Chisel	Wood	Nickel Tin
Angle	* 2"	2 1/2"	1/2"				
Sash	* 2 1/2"	2 3/4"	1/2"				
1202	* 1 1/2"	2 3/4"	1/2"		Chisel	Wood	Nickel
Sash	* 3"	3 1/2"	11/16"				



*Discontinued when stock is depleted

All American made except 601-G.





► Acid Brush, Throw-Away Type

#0	1/4"	6" OAL
#1	3/8"	6" OAL
#2	1/2"	6" OAL
#3	9/16"	6" OAL

Finest horse hair fill, tinned metal handle. Nylon available



► Economy Paint Touch-Up

Style 4843 / Size 1/4" Flat Camel Hair
Style 1091 / Size 1 Camel Hair



► Lens Cleaning Brushes

*Style 701 / Round Table Camel Hair 1" wide Ltd



Soft Cotton Swabs

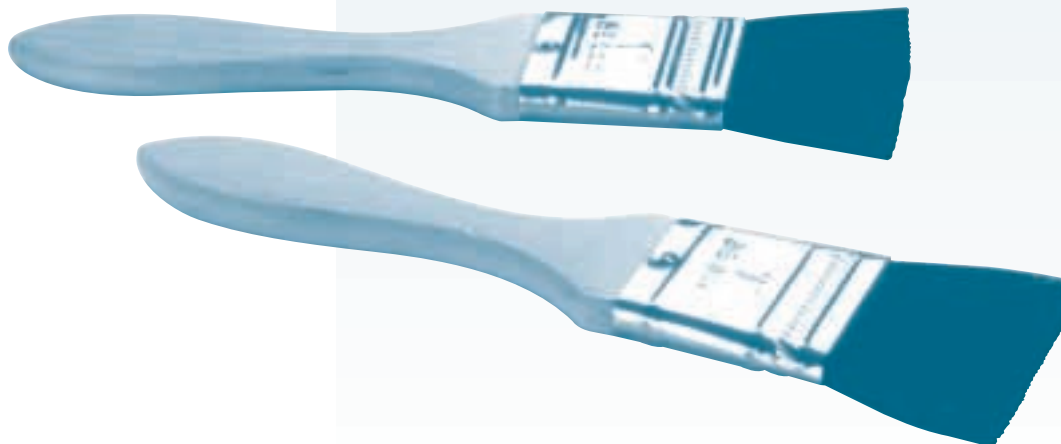
PS-1 Potash Swab, 4 rows by 13" handle
CS-1 Twisted-in-wire cotton Swab 3" dia. by 3" BP x 16"
CS-2 Twisted-in-wire cotton Swab 2" dia. by 3" BP x 11"
CS-3 Economy style twisted in wire cotton swab 2" dia. by 3" BP x 11"



► Electronics Applicator Brush

.003 Natural Nylon Fill.
1/8" SS Stem with Delrin Handle
5130-1 Straight
5130-2 90 Degree

►
* Discontinued when stock is depleted



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