47005

47008

47005 - 47007

Wire hand brushes

<u>ATORN</u>®

47005

Design

- Smooth, hardened cast steel wire
- Wire Ø 0.35 mm

47006

Design

- Crimped, rust and acid-resistant

V2A steel wire

- Wire Ø 0.30 mm

47007

Design

- Crimped, fine brass wire
- Wire Ø 0.15 mm





Fillet weld brushes



47008 102

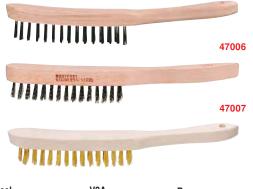
Design
- Smooth, hardened cast steel wire

- Tapered

47008 202 Design

- Rust and acid-resistant V2A steel wire

- Tapered



						Cast steel		V2A	
	Trim	Wire Ø	Trim height	Working length	Total length	47008		47008	
١		mm	mm	mm	mm				
	2-1011	0.35	25	1/15	205		100		202

47015

Thread brush



Design

Horse hair, bristle.

Applications

For gentle cleaning of threaded parts.



Trim	Trim height	Working length	Total length	47015	
	mm	mm	mm		
4-row	18	105	220		101

47016

Maintenance hand brush

##W

- **Design** Korfil-D trim
- Extremely kink-resistant
- Insensitive to fats and light acids, e.g. coolants and cutting fluids

Applications

Machine cleaning.



47017

Spark plug brush



Design

Crimped brass wire.



ı	Trim	Wire Ø	Trim height	Total length	47017	
1		mm	mm	mm		
	3-row	0.20	15	180		101

47016

Brake calliper/universal brushes | File brush | Cylinder wire brushes

47020 Brake calliper/universal brushes

Design

2-component plastic handle.

Applications

For derusting and cleaning brake callipers and other components.

47020 101 Smooth steel wire.

47020 102 Crimped steel wire.

47020 103

Crimped brass wire.

Trim	Wire Ø mm	Trim height mm	Working length mm	Total length mm	47020	
2-row	0.30	23	95	245		101
2-row	0.35	23	95	245		102
2-row	0.30	23	95	245		103



47070

File brush



Design

- Robust wooden handle with steel wire trim

Applications

For cleaning clogged files.

Work surface approx. mm	Total length mm	47070	
110 x 40	250		102



47170

Shaft-mounted cylinder wire brushes / miniature brushes

Brush Ø

mm

16

16

22

Applications

For cleaning and polishing as well as for light deburring work in holes and cavities. The narrow trim width permits targeted application in hard-to-reach areas.

47170 401-406

Applications

Brushes with natural bristle trim can be used with polishing pastes for a better result.

Shaft Ø

mm

2.34

3.00

2.34

3.00

47170 502-503

Design

- Nylon diamond
- Flexible trim
- Restoration and breakage resistance even under heavy load and deformation

Applications

Suitable for processing very hard parts such as ceramic parts, hardened parts, precision components.

12 pcs.

12 pcs.

12 pcs.

12 pcs



47170 101-107



47170 201-206









47170 502-503







101

105

103

106

104		12 pcs.	0.1	2.34	32
107		12 pcs.	0.1	3.00	32
	V2A				
	47170	>	Trimming material Ø	Shaft Ø	Brush Ø
			mm	mm	mm
201		12 pcs.	0.1	2.34	16
205		12 ncs		3.00	16

Trimming material Ø

22	2.34	0.1	12 pcs.		203
22	3.00	0.1	12 pcs.		206
				Brass	
Brush Ø	Shaft Ø	Trimming material Ø	$\overline{\sim}$	47170	
mm	mm	mm			
16	2.34	0.1	12 pcs.		301
16	3.00	0.1	12 pcs.		305
22	2.34	0.1	12 pcs.		303
22	3.00	0.1	12 pcs.		306

Brush Ø	Shaft Ø	Trimming material	A	47170	
mm	mm				
16	2.34	Goat hair	12 pcs.		401
16	3.00	Goat hair	12 pcs.		405
22	2.34	Goat hair	12 pcs.		403
22	3.00	Goat hair	12 pcs.		406
			N	lylon diamond	

			Nylor		
Brush Ø	Shaft Ø	Trimming material	\Rightarrow	47170	
mm	mm				
17	2.34	K400	2 pcs.		502
22	2.34	K400	2 pcs.		503

www.hhw.de Fax order hotline: 0800 0 915910

Natural bristle

Shaft-mounted cylinder wire brushes

PFERD

Design

With cylindrical clamping shaft 6 mm \varnothing .

Applications

For cleaning, derusting, smoothing, descaling, cleaning of cast welds, light-duty deburring and removing corrosion and paints.

For use on straight grinders, flexible shafts and drills with at least 300 Watt drive output.

47190 Design Steel wire.

47191 Design INOX wire.

47192 Design Brass wire.

47193 Design Plastic (SiC).





47190 - 47193

Steel

Brush Ø mm	Trim width mm	Trimming material Ø mm	Trim length mm	Total length mm	Recommended rotation speed rpm	Maximum rotation speed rpm	47190
20	4	0.20	3	37	10,000-15,000	20,000	101
30	6	0.20	7	40	10,000-15,000	20,000	102
40	9	0.20	9	46	9,000-13,500	18,000	103
50	15	0.20	13	50	8,000-12,500	15,000	104
60	15	0.20	15	50	7,500-11,300	15,000	105
70	10	0.30	19	50	7,500-11,300	15,000	106
70	15	0.30	19	50	7,500-11,300	15,000	108
80	15	0.30	19	50	6,000-9,000	12,000	111

							INOX
Brush Ø	Trim width	Trimming material Ø	Trim length	Total length	Recommended	Maximum	47191
mm	mm	mm	mm	mm	rotation speed rpm	rotation speed rpm	
20	4	0.20	3	37	8,000-13,000	20,000	101
30	6	0.20	7	40	8,000-13,000	20,000	102
40	9	0.20	9	46	7,200-11,700	18,000	103
50	15	0.20	13	50	6,000-9,800	15,000	104
60	15	0.20	15	50	6,000-9,800	15,000	105
70	10	0.20	19	50	6,000-9,800	15,000	106
70	15	0.15	19	50	6,000-9,800	15,000	107
70	15	0.30	19	50	6,000-9,800	15,000	108
80	15	0.15	19	50	4,800-7,800	12,000	110
80	15	0.30	19	50	4,800-7,800	12,000	111

							Brass
Brush	Ø Trim width	Trimming material Ø	Trim length	Total length	Recommended	Maximum	47192
mr	n mm	mm	mm	mm	rotation speed rpm	rotation speed rpm	
3	0 6	0.20	7	40	8,000-13,000	20,000	102
4	0 9	0.20	9	46	7,200-11,700	18,000	103
5	0 15	0.20	13	50	6,000-9,800	15,000	104
7	0 15	0.30	19	50	6,000-9,800	15,000	108

							Plastic (SiC)	
Brush Ø mm	Trim width mm	Trimming material Ø mm	Trim length mm	Total length mm	Recommended rotation speed rpm	Maximum rotation speed rpm	47193	
50	15	0.90	13	50	6,000-9,800	15,000		104
70	15	0.90	10	50	6 000-9 800	15,000		108

Shaft-mounted cylinder wire brushes



Design

Steel body with cylindrical clamping shaft 6 mm Ø.

Applications

For clamping in hand-held sanders or flexible shafts.

47233 Design

Wire quality Special steel wire, fine.

Applications

For fine brushing etc.

47234

Design

Wire quality Special steel wire, coarse.

Applications

For cleaning, derusting etc.

47235 Design

Wire quality V2A.

Applications

For processing Nirosta stainless steels.



				Fine steel			V2.		Α	
Ø	Wire thickness Ø	Working width	Maximum rotation speed	47233		47234		47235		
mm	mm	mm	approx. rpm							
20	0.15	4	20,000		100					
30	0.15	6	20,000		101					
40	0.20	11	18,000		102					
50	0.20	17	15,000		103					
50	0.30	17	15,000				103			
60	0.20	18	15,000		104				104	
60	0.30	18	15,000				104			
70	0.20	18	15,000		105					
70	0.30	18	15,000				105		105	

Wire end brushes / miniature brushes with shaft



Applications

For cleaning and polishing as well as for light deburring work in holes and cavities. Due to the low trim width, targeted processing is possible in hardto-reach spots.

47172 401-402 **Applications**

Brushes with natural bristle trim can be used with polishing pastes for a better result.

47172 501

Design

- Nylon diamond
- Flexible trim
- Restoration and breakage resistance even under heavy load and deformation

Applications

Suitable for processing very hard parts such as ceramic parts, hardened parts, precision components.

Brush Ø mm	Shaft Ø mm	Trimming material Ø mm	Maximum rotation speed approx. rpm		47172	
5	2.34	0.1	5,000	12 pcs.		101
5	3.00	0.1	5,000	12 pcs.		102

					V2A	
Brush Ø	Shaft Ø	Trimming material Ø	Maximum rotation speed	\Rightarrow	47172	
mm	mm	mm	approx. rpm			
5	2.34	0.1	5,000	12 pcs.		201
5	3.00	0.1	5,000	12 pcs.		202

					Brass	
Brush Ø	Shaft Ø	Trimming material Ø	Maximum rotation speed	\Rightarrow	47172	
mm	mm	mm	approx. rpm			
5	2.34	0.1	5,000	12 pcs.		301
5	3.00	0.1	5,000	12 ncc		303

				Nat	ural bristle	
Brush Ø	Shaft Ø	Trimming material	Maximum rotation speed	\Longrightarrow	47172	
mm	mm		approx. rpm			
5	2.34	Goat hair	5,000	12 pcs.		401
5	3.00	Goat hair	5.000	12 pcs.		402

				Nylo	n diamond	
Brush Ø	Shaft Ø	Trimming material	Maximum rotation speed	\Rightarrow	47172	
mm	mm		approx. rpm			
5	2.34	KANN	5,000	2 nce		501





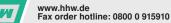














Wire end brushes with shaft



Design

Crimped with clamping shaft 6 mm Ø. The wires spread open during rotation.

Applications

For clamping in straight grinders, flexible shafts and drills. Suitable for all light-duty brushing work. Perfect for deburring, cleaning and derusting in holes and hard-to-reach places and cavities.

47250 Design Steel wire.

47251 Design

INOX wire with plastic-coated

brush body.

All INOX brushes are degreased.

47252 Design Brass wire.



47250 - 47252



		Diass	wiie.	Steel		INOX		Brass	
Ø	Wire thickness Ø	Wire effective length	Maximum rotation speed	47250		47251		47252	
mm	mm	mm	approx. rpm						
10	0.30	20	20,000						103
10	0.35	20	20,000		103		103		
13	0.30	20	20,000						106
13	0.35	20	20,000		106		106		
15	0.20	22	18,000				108		
15	0.30	22	18,000						109
15	0.35	22	18,000		109				
15	0.35	22	18,000				109		
20	0.20	25	18,000		111		111		
20	0.50	25	18,000		112		112		112
30	0.20	25	15,000		114		114		
30	0.50				115		115		115

Wire end brushes with shaft 47253 - 47256



47253 - 47254

Design

- Crimped
- Long design
- With cylindrical 6 mm clamping shaft
- Total length 120 mm

Applications

Its particularly long design makes it perfect for use in hard-to-reach places.

47255 - 47256 Design

- SINGLETWIST; twist runs counter to the brush direction of rotation
- Brush does not spread out during use
- Flexible single twist brush
- With cylindrical 6 mm clamping shaft
- Total length 65 mm

Applications

Mainly for application on internal corners. Suitable for straight grinders and drive shafts.







NEW



				Steel	INOX	Steel	INOX
Wire thickness	Wire effective length	Brush Ø	Maximum rotation speed 4	17253	47254	. 47255	47256
mm	mm	n mm	approx. rpm	1			
0.20	20	10	20,000	102	102	2	
0.20	25	10	10,000			102	102
0.30	20	10	20,000	103	103	3	
0.35	25	10	10,000			103	103

47257

Wire end brushes with shaft



Design

- Twisted wire

Advantage

- A variable external diameter can be achieved by changing the working speed and resulting centrifugal forces
- High flexibility and high cleaning efficiency

Applications

For precise application in hard-to-reach places and on interior surfaces. Particularly suitable for cleaning the inside of cylindrical holes. For use on fast-running machines

47257 101-103 Design

- Trimming material: Steel

Applications

Material to be processed: Steel, steel casting.

47257 201-203

Design

- Trimming material: Stainless steel

Applications

Material to be processed: Stainless steel, non-ferrous metal, aluminium.



	Si									
Head Ø	Wire thickness	Wire effective length	Number of twists	Shaft Ø	Total length	Maximum rotation speed	47257		47257	
mm	mm	mm	pieces	mm	mm	approx. rpm				
20	0.25	29	6	6	44	20,000		101		201
23	0.35	29	8	6	44	20,000		102		202
30	0.35	29	12	6	44	20,000		103		203

47.5

Wire end brushes | Wire cup brushes | Roller brushes | Polishing and deburring brushes

47260 - 47262 Wire end brushes (decarbonising brushes) with shaft

Design

With cylindrical clamping shaft 6 mm \varnothing .

Applications

For clamping in hand-held sanders or flexible shafts; for use in corners and hard-to-reach areas.

47260 102-104 Design Short, steel wire.

47260 202-204

Design Short, V2A wire.

47261 Design Long, steel wire.

Design

Spread to 70 mm, steel wire.



Design	Wire	Wire effective length approx. mm	Wire Ø mm	Body Ø approx. mm	Maximum rotation speed approx. rpm	47260	47261		47262	
Short	Steel	25	0.3	15	18,000	102				
Short	Steel	25	0.3	22	18,000	103				
Short	Steel	25	0.3	28	15,000	104				
Short	V2A	25	0.3	17	18,000	202				
Short	V2A	25	0.3	22	18,000	203				
Short	V2A	25	0.3	28	15,000	204				
Long	Steel	18	0.3	10	9,000			101		
Spread	Steel	25	0.3	28	15,000					101

47171

Wire cup brushes / miniature brushes with shaft

ATORN

Applications

For cleaning and polishing as well as for light deburring work in holes and cavities. Due to the low trim width, targeted processing is possible in hard-to-reach spots.

47171 401-402

Applications

Brushes with natural bristle trim can be used with polishing pastes for a better result.

47171 501 Design

- Nylon diamond
- Flexible trim
- Restoration and breakage resistance even under heavy load and deformation

Applications

Suitable for processing very hard parts such as ceramic parts, hardened parts, precision components.











Steel

Brush Ø	Shaft Ø	Trimming material Ø	\Rightarrow	47171	
mm	mm	mm			
18	2.34	0.1	12 pcs.	1	01
18	3.00	0.1	12 pcs.	1	02

				VA	
Brush Ø	Shaft Ø	Trimming material Ø	\Rightarrow	47171	
mm	mm	mm			
18	2.34	0.1	12 pcs.		201
18	3.00	0.1	12 pcs.		202

				Brass	
Brush Ø	Shaft Ø	Trimming material Ø	\Rightarrow	47171	
mm	mm	mm			
18	2.34	0.1	12 pcs.		301
18	3.00	0.1	12 pcs.		302

			Natural bristle		
Brush Ø	Shaft Ø	Trimming material	\Rightarrow	47171	
mm	mm				
18	2.34	Goat hair	12 pcs.		401
18	3.00	Goat hair	12 pcs.		402

			Nylon diamond			
Brush Ø	Shaft Ø	Trimming material		47171		
mm	mm					
10	2.34	K400	2 pcs.		501	

Wire cup brushes with shaft



Design - Crimped

- With cylindrical clamping shaft 6 mm Ø

Applications

Universal for cleaning, derusting, smoothing, descaling and for removing corrosion and paints. Use on the front side with entire trim surface. Mainly for use on large flat, easily accessible surfaces.

47263 Design Steel wire.

47264 Design INOX wire.

Plastic coated brush body.



47263

					Steel	INOX
Brush Ø	Wire effective length	Wire Ø	Rec. drive output	Maximum rotation speed	47263	47264
approx. mm	approx. mm	mm	min. Watt	approx. rpm		
50	20	0.3	300	10,500	101	101
60	20	0.3	300	4,500	102	102

47265 Steel wire cup brush with shaft

Design

Crimped steel wire, coarse.

Applications

For cleaning work, such as removing paint, rust, scale, encrusted dirt or ridges.

Ø	Wire effective length	Vire effective length Wire Ø Sh		Maximum rotation speed	47265	
mm	mm	mm	mm	approx. rpm		
50	17	0.3	6	4,500		101



47265

47264

Roller brushes with hole 47310



Design

Crimped. Hole with 4 keyways.

47310 101 Design

Steel wire (stranded wire).

Applications

Suitable for very heavy-duty brushing work. The special arrangement of the wires produces a highly aggressive brushing effect.

47310 102 Design INOX wire.

> **Applications** For texturing INOX workpieces.

Provides optimum corrosion protection.

47310 103 Design

With plastic (SiC) trim.

Applications

Suitable for texturing steel, INOX and wood. Also for fine deburring of holes and openings in large parts.



47310 102 47310 103



Trim	Ø	Hole Ø	Trim thickness Ø	Trim length	Trim width	Rec. rotation speed	Max. rotation speed	47310	
	mm	mm	mm	mm	mm	approx. rpm	approx. rpm		
Steel wire	100	19	0.27	26	100	3,000-4,500	6000		101
INOX wire	100	19	0,20	26	100	2,400-3,900	6000		102
Plastic (SiC)	100	19	1.27	26	100	2,400-3,900	6000		103

Bristle Brush[™] polishing and deburring brushes 47400

3M

The radial Bristle Brush consists of 8 individual segments that are held with a flange (25.4 mm inner diameter). The product is cast from a single piece, which prevents individual components from coming loose – a common occurrence with wire brushes or scrapers. The brush is delivered complete including 4 adapters

(13, 16, 19 and 22 mm) for reducing the inner diameter. Long cleaning life.

Applications

For cleaning, blending, deburring and polishing. For use on sanding blocks, straight grinders or flexible shafts.

Use clamping mandrel art. no. 43801 for use with straight grinders.



101
102
103

47403

Cylinder wire brushes with hole



Design

- Aggressive cylinder wire brush
- Multi-row
- Crimped trim
- All-steel body

Applications

Universal brush for all medium-duty brushing work. Most suitable for brushing wide surfaces. Suitable for cleaning and roughing work on flat (uncontoured) surfaces.

Ø 100 mm: Reduction using steel core Ø 30 mm to 20 mm + 10 mm, 1/2 inch, 5/8 inch adapters Ø 150–200 mm: Reduction using steel core Ø 50.8 mm to 31.75 mm + 13 mm, 15 mm, 16 mm, 19 mm, 20 mm, 7/8 inch, 1 inch adapters

47403 301-306

Design

- Steel wire 0.3 mm

Applications

For machining iron and steel.

47403 401-406 Design

- VA wire 0.3 mm **Applications**

For processing Nirosta stainless steels.





47403 401-405



						Steel	VA
Ø	Hole Ø	Working width	Wire effective length	Wire Ø	Maximum rotation speed	47403	47403
mm	mm	mm	mm	mm	approx. rpm.		
80	10.0	18	20	0.3	10,000	301	
100	30.0	20	17	0.3	8,000	302	
150	50.8	25	30	0.3	6,000	303	
178	50.8	25	38	0.3	6,000	304	
200	50.8	25	38	0.3	4,500	305	
80	10.0	18	20	0.3	10,000		401
100	30.0	20	23	0.3	8,000		402
150	50.8	30	30	0.3	6,000		403
178	50.8	32	38	0.3	6,000		404
200	80.0	30	38	0.3	4.500		405

47601

Twisted steel cylinder wire brush with shaft



Design

Twisted high-performance steel wire.

Applications

For machining welding seams, removing hard scale, slag, underbody seal, sand residues and for deburring.



47595 - 47596

Ø	Working width	Wire effective length	Wire Ø	Shaft Ø	Maximum rotation speed	47601	
mm	mm	mm	mm	mm	approx. rpm		
75	12	18	0.50	6	20,000		101

47595 - 47596

Pipeline twisted cylinder wire brushes with hole or thread

PFERD 245

Design

With hole or thread, twisted. Aggressive and stable brush that withstands high mechanical load.

Applications

For heavy-duty brushing applications in pipeline and tank construction. Thanks to its extremely narrow design, this brush is perfect for applications in hardto-reach areas.

47595 Design Steel wire.

47596 Design INOX wire.

All brushes are degreased.





							Steel		INOX	
Ø	Hole Ø	Thread	Working width	Wire effective length	Wire Ø	Maximum rotation speed	47595		47596	
mm	mm		mm	mm	mm	approx. rpm				
115	22.2	-	6	19	0.5	12,500		101		
125	22.2	-	6	19	0.5	11,000		102		
125	-	M14	6	19	0.5	11.000		103		103

Twisted cylinder wire brushes COMBITWIST® with hole

PFERD M

Design

With COMBITWIST® for quiet operation even on corners and edges. No recoil when brushing edges. Increased service life and removal of material. Minimal unravelling of twists during use.

Applications

For heavy-duty application with angle grinders and with higher speeds (to 80 rpm).

47598 Design Steel wire 0.5 mm Ø.

47599 Design

INOX wire 0.35 mm Ø.





					Steel	INOX
	Ø Hole Ø	Working width	Wire effective length	Maximum rotation speed	47598	. 47599
m	m mm	mm	mm	approx. rpm		
1	15 22.2	12	28	12,500	101	101
13	25 22.2	12	33	11,000	102	2 102
1	78 22.2	13	42	9,000	103	3 103

47603

Twisted cylinder wire brushes with hole



Design

- Excellent durability, even with diagonal application **Applications**

For preparatory and finishing work on welding seams, for removing rust, scale, varnish, slag, rubber residue and for deburring. Ideal for use in hard-to-reach places.

Particularly suitable for single-hand angle grinders and straight grinders.



47603

						Steel		VA
Ø	Hole Ø	Working width	Wire effective length	Wire Ø	Maximum rotation speed	47603	476	603
mm	mm	mm	mm	mm	approx. rpm			
115	22.2	12	23	0.5	12,500		201	301 NEW
125	22.2	13	28	0.5	12,500		202	302 NEW
178	22.2	13	42	0.5	12,000		203	303 NEW

47620 - 47621

Twisted tapered brushes COMBITWIST® with thread

PFERD

Design

With COMBITWIST®.

Applications

mm

100

115

125

For derusting, descaling, cleaning welding seams and deburring.

The tapered shape makes it ideal for machining hard to reach areas. Suitable for extreme use on angle grinders with higher rotation speeds (up to 80 rpm).

Number

of twists

22

22

28

Thread

M14

M14

M14

47620 Design

Steel wire 0.5 mm Ø.

47621 Design

13

15

Working width

INOX wire 0.35 mm Ø.



Maximum rotation spe

approx. r



NOC. IX	Steel		INOX	
n speed ox. rpm	47620		47621	
20,000		101		101
15,000		102		102
15,000		103		103

47605

Offset twisted cylinder wire brushes with thread

Wire effective length

22

26



For aggressive brushing in hard-to-reach places, such as welding seams, on angle plates. For all commercially available single-hand angle grinders.

47605 101-102 Design

Smooth cast steel wire.

47605 301-302 Design V2A wire.



47605

						• • • • • • • • • • • • • • • • • • • •	
Ø	Thread	Working width	Wire effective length	Wire Ø	Maximum rotation speed	47605	47605
mm		mm	mm	mm	approx. rpm		
100	M14 x 2.0	13	22	0.5	12,500	101	301
115	M14 x 2.0	15	20	0.5	12,500	102	302

Twisted wire cup brushes (surface brushes) with thread



Design

With twisted wire.

Applications

Specially designed for high-speed angle grinders.

With thread insert M14.

For extremely heavy-duty surface brushing.

Note:

Wire cup brushes have a support ring to prevent flaring or unwinding of the twists. When the wire has worn down, the ring can be removed so that the brush can be used up completely.

65 mm Ø without support ring.

47610 Design

Wire quality special steel wire.

Design

Wire quality V2A wire.



47612 201





Ø 80 x 100 mm With support ring

				Steel	V2A
Ø	Thread	Wire Ø	Maximum rotation speed	47610	47612
mm		mm	approx. rpm		
65	M14	0.5	12,500	201	201
80	M14	0.5	8,500	202	
100	M14	0.5	8,500	203	203

47606 - 47607

Twisted wire cup brushes with thread

PFERD

Design

With twisted wire.

Applications

Specially designed for high-speed angle grinders.

With thread insert M14.

For extremely heavy-duty surface brushing. For cleaning applications such as derusting, deburring and cleaning.

Note:

Steel wire cup brushes with a Ø 80 mm have a support ring to prevent flaring or unwinding of the twists. When the wire has worn down, the ring can be removed so that the brush can be used up completely.

47606

Design

Wire quality Steel wire.

47607

Wire quality INOX wire, all brushes are degreased.



47606

47613



INIOV

47607

						Steel	INOX
Ø	Thread	Wire thickness	Trim length	Number	Maximum rotation speed	47606	47607
mm		mm	mm	of twists	approx. rpm		
65	M14	0.35	22	18	12,500	101	101
65	M14	0.50	22	18	12,500	105	105
80	M14	0.50	25	22	8,500	110	

47613 - 47614

Wire cup brushes with thread

PFERD M Design

47613 Design Steel wire.

With crimped wire.

Applications

Ideal for medium-duty brushing work mainly on large surfaces, for deburring, cleaning and derusting. For angle grinders with thread insert M14.

47614 Design

INOX wire, brushes degreased.





47614

					Steel	INOX	
Ø	Thread	Wire effective length	Wire Ø	Maximum rotation speed	47613 .	47614	
mm		mm	mm	approx. rpm			
60	M14	20	0.3	12,500	10	1	
75	M14	40	0.3	12,500	10	4	104

47624

47624 - 47627

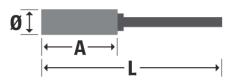
Nozzle brushes

Design

- Crimped wire or nylon trim
- With double wire core and eyelets

Applications

For cleaning, removing dust, deburring and paint stripping. Ideal for cleaning nozzles, pipes, hoses and glass bottles.





<u>OBBITANIAN DAN DAN D</u>

				Crimped steel wire	Crimped brass	Crimpe	d stainless steel	Nylon	
Ø	Trim length (A) mm	Total length	A	47624	47625		47626	47627	
mm	(A) IIIIII	(L) mm							
4	100	300	20 pcs.	101			101		101
5	100	300	20 pcs.	102		102			102
6	100	300	20 pcs.	103		103	103		103
8	100	300	20 pcs.	104		104			104
10	100	300	20 pcs.	105		105	105		105
12	100	300	20 pcs.	106		106	106		106
15	100	300	20 pcs.	107		107	107		107
18	100	300	20 pcs.	108		108			108
20	100	300	20 pcs.	109		109	109		109
25	100	300	20 pcs.	110		110			110

47628

Pipe brushes



Design

- Flexible, highly efficient brush tools
- Zinc-plated twisted wire with a basic spiral trim

Applications

Micro-abrasive pipe brushes are also flexible in smaller diameter ranges and can be used for a wider range of diameters than conventional deburring tools. Use in CNC and NC machines and machining centres. Perfect for deburring cross-drilled holes, control parts, O-ring grooves and cylindrical workpieces, cleaning condensers and smoke tubes as well as roughening surface coatings

Typical areas of application are:

- Microelectronics
- Aerospace
- Medical-technical devices
- Textile industry
- Hydraulics, pneumatics
- Precision tools

Note:

The brushes should be used with an excess length of 5-10% compared to the bore diameter.

47628 101-107 Design

Plastic trim silicon carbide (SiC) 1000

47628 201-213

Design

Plastic trim aluminium oxide (AO) 600

47628 101-107

47628 201-213

}	~ <u>↑</u>











0	Janigs							
	Ø mm	Trim length (A) mm	Total length (L) mm	Shaft Ø (S) mm	Grain/wire	3	47628	
	0.7	12	100	0.42	NHS 1000 (SIC)	12 pcs.		101
	1.2	12	100	0.47	NHS 1000 (SIC)	12 pcs.		102
	1.9	18	100	0.74	NHS 1000 (SIC)	12 pcs.		103
	2.2	18	100	0.93	NHS 1000 (SIC)	12 pcs.		104
	2.6	25	100	1.08	NHS 1000 (SIC)	12 pcs.		105
	3.2	25	100	1.66	NHS 1000 (SIC)	12 pcs.		106
	3.5	25	100	1.66	NHS 1000 (SIC)	12 pcs.		107

Ø mm	Trim length (A) mm	Total length (L) mm	Shaft Ø (S) mm	Grain/wire		47628	
4.2	25	125	2.20	NHA 600 (A0)	12 pcs.		201
4.8	25	125	2.20	NHA 600 (A0)	12 pcs.		202
5.5	25	125	2.20	NHA 600 (A0)	12 pcs.		203
6.6	25	125	3.00	NHA 600 (A0)	12 pcs.		204
8.2	25	125	3.00	NHA 600 (A0)	12 pcs.		205
9.8	25	125	3.40	NHA 600 (A0)	12 pcs.		206
11.5	25	125	3.40	NHA 600 (A0)	12 pcs.		207
13.0	25	125	4.20	NHA 600 (A0)	12 pcs.		208
16.0	25	125	4.20	NHA 600 (A0)	12 pcs.		209
17.5	25	125	4.20	NHA 600 (A0)	12 pcs.		210
19.4	25	125	5.60	NHA 600 (A0)	12 pcs.		211
22.6	25	125	5.60	NHA 600 (A0)	12 pcs.		212
25.8	25	125	6.20	NHA 600 (A0)	12 pcs.		213

Helituf® internal cleaning brushes



47636 - 47639

Helituf® internal cleaning brushes

Design

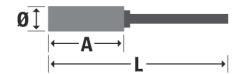
- Helically fastened crimped original Osborn wire

Applications

Densely filled internal cleaning brushes for mechanical or manual use. For use in drill chucks and tool spindles. The helically arranged bristles simulate a lifting movement.

Optional Helituf® holders also enable mounting in chucks. The optional holders (47640 110-111) can either be used individually or screwed together up to a total length of 225 mm (including brush).

Helituf® internal cleaning brushes are ideal for cleaning threaded holes, brushing edges and elongated slots such as keyways.





						Steel wire 0.13 mm		Steel wire 0.20 mm	Stainless	steel wire 0.13 mm	Stainless	steel wire 0.20 mm	
Hole Ø mm	Brush Ø (Ø) mm	Trim length (A) mm	Total length (L) mm	Shaft Ø mm		47636		47637		47638		47639	
6	6.4	25	89	3.18	12 pcs.		100				100		
8	8.3	25	89	3.18	12 pcs.		101						
10	11.0	25	89	3.18	12 pcs.		102		102		102		102
13	14.3	25	89	3.18	12 pcs.		103		103		103		103
16	17.5	25	89	3.18	12 pcs.		104		104		104		104
19	21.0	25	89	3.18	12 pcs.		105		105				105
22	23.8	25	89	3.18	12 pcs.		106		106		106		
25	27.0	25	89	3.18	12 pcs.		107		107		107		107
29	30.0	25	89	3.18	12 pcs.		108						
32	33.4	25	89	3.18	12 pcs.				109				109

47640

Helituf® holder

Applications

For ideal mounting in chucks or extending the total length.

The holders can either be used individually or screwed together up to a total length of 225 mm (including brush).

Helituf® holder with	Shaft Ø mm	Total length mm	47640	
Male thread	5	90		110
Female thread	6	90		111

47641

Helituf® internal cleaning brush set with 2 holders

Scope of delivery:

- 1 internal cleaning brush of each size (Ø mm): 10/11/13/14/16/18/19/21/22/24/25/29
- 1 holder Ø 5 x 90 mm

- 1 holder Ø 6 x 90 mm
- Supplied in a tool roll

Applications

Helituf® internal cleaning brush set for cleaning threaded holes or brushing edges and elongated slots such as keyways.

Content	47641	
14teilia		100



47615

Boiler pipe brushes

www.hhw.de Fax order hotline: 0800 0 915910

Design

- Pressed-on threaded connecting piece Ww. 1/2 inch
- Cast steel wire trim
- Double spiral

Note:

For pipe cleaning shafts, see art. no. 61322.



Ø	Ø	Working length	Total length	47
mm	inch	mm	mm	
38	1.1/2	100	160	
50	2.	100	160	
63	2.1/2	100	160	
101	1	100	160	

Internal cleaning brushes with thread



Design

Crimped.

Applications

Ideal for deburring and cleaning pipes, threads, sleeves and cylinders. Suitable drive machines include straight grinders, flexible shafts and drills. For use with low rotation speeds up to 1000 rpm. 47630 Design

Wire quality steel.

47631 Design

Wire quality INOX.

47632 Design

Wire quality brass.

				Steel		INOX		Brass	
$\emptyset d_1$	Thread	Trim length	Total length	47630		47631		47632	
mm	d_2	l ₂ mm	I ₁ mm						
8	M6	80	120		101		101		101
10	M6	80	120		102		102		102
12	M6	80	120		103		103		103
15	M6	80	120		105		105		105
18	M6	80	120		107		107		107
20	M6	80	120		108		108		108
22	3/8 inch BSW	100	170		109		109		109
25	3/8 inch BSW	100	170		110		110		110
30	3/8 inch BSW	100	170		111		111		111

Extension, wire stem, quick-change handles:

The extension, wire stem and quick-change handles are used to also access difficult-to-reach areas with internal cleaning brushes.

The **extensions and wire stems** offer various combination options to achieve the desired total length.

Several extensions can be connected together.

47635 101 Extension Applications

For internal cleaning brushes with **M6 thread**, Art. no. 47630–47632.

47635 102 Wire stem Applications

For internal cleaning brushes with M6 thread,

Art. no. 47630-47632.

47635 103 Quick-change handle Applications

For internal cleaning brushes with **M6 thread**, Art. no. 47630–47632 101–108.

The quick-change handle can also be combined and extended with extension 47635 101.



47635 104 Quick-change handle Applications

For internal cleaning brushes with 3/8 inch thread, Art. no. 47630–47632 109–111.

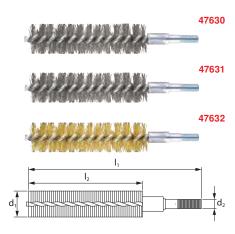
	Thread	Length mm	External Ø of threaded sleeve	47635
Extension	M6	1000	12	101
Wire stem	M6	1000	12	102
Quick-change handle	M6	135	12	103
Quick-change handle	3/8 inch	135	12	104

Note:

In addition to the thread, internal cleaning brushes up to Ø 20 mm have a shank attachment that enables clamping in 6-mm collet chucks.

Internal brushes with 3/8-inch threads also have a 10-mm shank attachment.









Honing tool Novoflex-B

osborn '

Design

Robust, self-centring honing tool for gentle sanding process.

SiC trim.

Due to their flexible design, the abrasive beads adapt to the surface and can therefore be used for edge breaking, final surface finishing and also in irregular holes.

Recommended rotation speed 350-700 rpm. Total length 200 mm.

Applications

The perfect tool for creating a uniform precisionground surface with a high contact ratio, or plateau finish. For the automotive, aerospace, hydraulics and heat exchanger industries. Suitable for hand drills, honing machines and automated machines. Quality

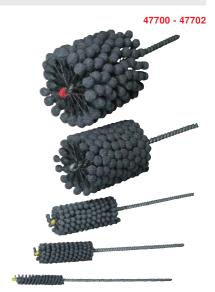
Silicon carbide.

Note:

For use with honing oil or can be used dry.







			5	SiC/K 120	Si	C/K 180	
Ø mm	For hole Ø up to mm	Working width mm	Shaft Ø mm	47700		47702	
9	8	50	3.7		109		109
10	9	50	3.7		110		110
11	10	60	3.7		111		111
12	11	60	3.7		112		112
13	12	60	3.7		113		113
15.5	14	60	3.7		116		116
18	16	60	4.6		118		118
20	18	60	4.6		120		120
22	20	70	4.6		122		122
25	22	70	4.6		125		125
27	24	70	5.1		127		127
28	25	70	5.1		128		128

			5	SiC/K 120	Si	C/K 180	
Ø mm	For hole Ø up to mm	Working width mm	Shaft Ø mm	47700		47702	
30	27	70	5.1		130		130
32	29	70	5.1		132		132
35	32	70	5.1		135		135
38	35	70	5.7		138		138
41	38	70	5.7		141		141
45	41	70	5.7		145		145
48	45	70	5.7		148		148
51	48	70	6.5		151		151
54	51	70	6.5		154		154
57	54	70	6.5		157		157
60	57	70	7.3		160		160
64	60	70	7.3		164		164

47800 - 47801

Disc brushes



Design

- Disc brushes with dense sanding bristle trim (full trim) fully encapsulated in the plastic disc
- 4x higher trim density produced than in conventional process (stamped)
- With longitudinal slot for clamping on face mill arbors (DIN 6357) and combi mill arbors (DIN 6358)

Advantage

- Post-machining directly after the cutting process
- Continuously released abrasive grain ensures reproducible results
- Very high dimensional stability and accuracy

Applications

On CNC machining centres and with the use of robots, preferably in wet sanding with coolant. Machining flat components: precise deburring, edge rounding, fine machining after cutting, surface finishing of sealing and contact surfaces for example.

Note:

Disc brushes without keyway (combi mill arbor). Other designs deliverable on request.

47800

Design

- Nylon bristles with an extremely high proportion of silicon carbide grain for universal use

Quality

Nylon bristle with silicon carbide.

47801

Design

- Nylon bristles with an extremely high proportion of ceramic abrasive grain for universal use

Quality

Nylon bristle with ceramic abrasive grain.





47801



				SiC		Ceramic	
Ø mm	Total height mm	Hole mm	Grain	47800		47801	
50	35	16	80		101		101
50	35	16	120		102		102
50	35	16	180		103		
76	35	22	80		201		201
76	35	22	120		202		202
76	35	22	180		203		
106	35	22	80		301		301
106	35	22	120		302		302

				SiC		Ceramic	
Ø mm	Total height mm	Hole mm	Grain	47800		47801	
106	35	22	180		303		
125	35	27	80		401		401
125	35	27	120		402		402
125	35	27	180		403		
150	35	32	80		501		501
150	35	32	120		502		502
150	35	32	180		503		