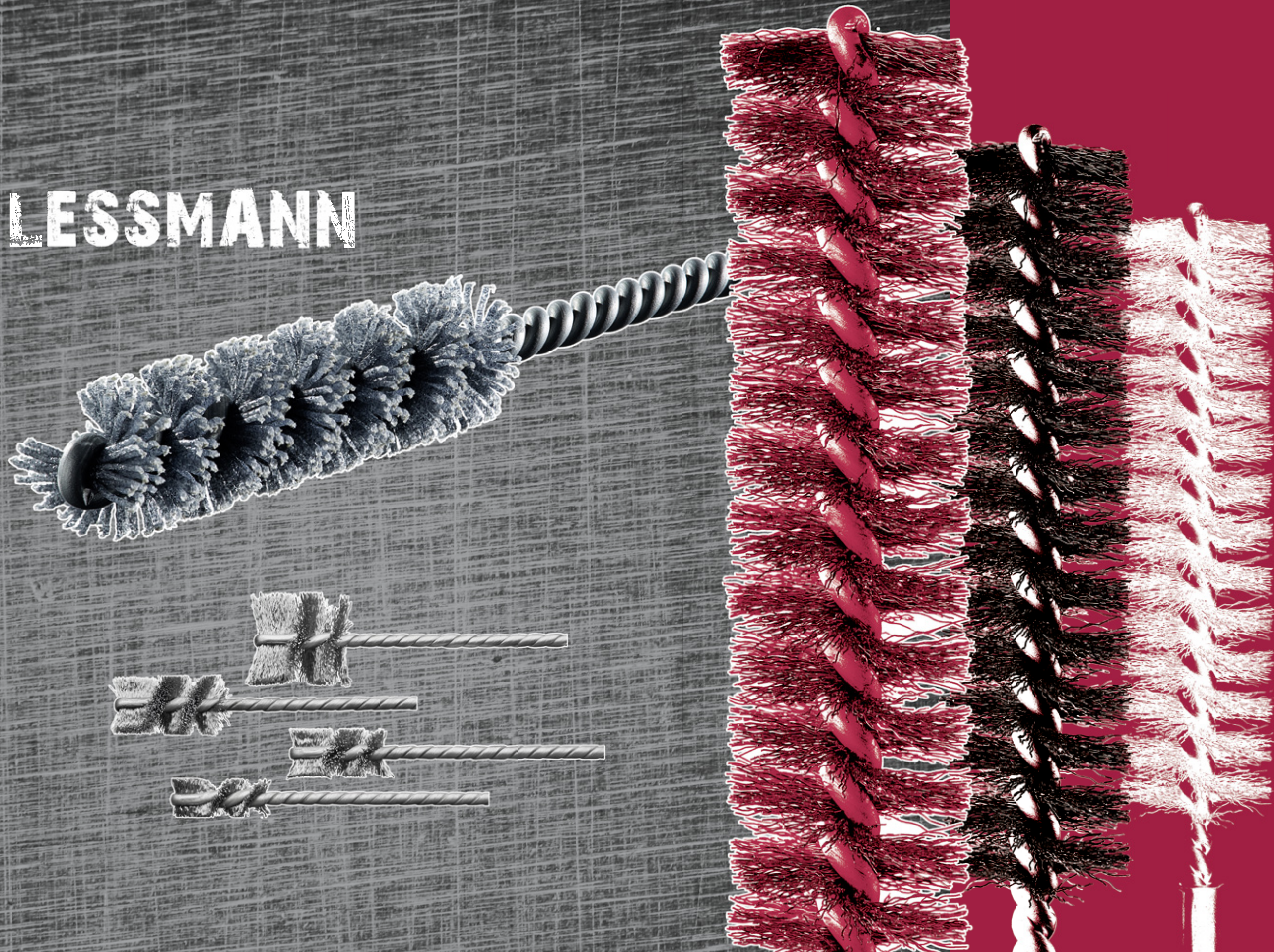


LESSMANN



Micro Interior Brushes

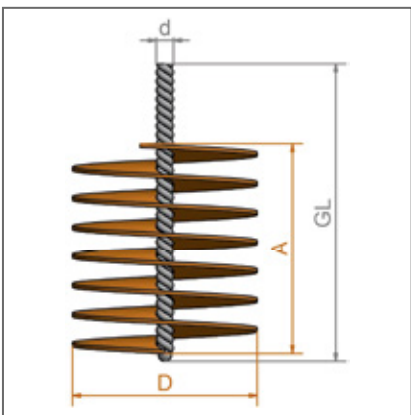


Interior brushes with zinc coated twisted wire and single spiral
Due to the filling of aluminium oxide or silicon carbide their usage is more flexible than with conventional interior brushes.

Interior brushes with abrasive filaments are usually used for deburring bores, cross bores, o-ring recesses and for polishing and cleaning small bores.

Due to the flexible surface of the bristles the interior brushes suit to the contour of the bore and areas which are hard to reach can be treated. Abrasive bristles also have grinding effects on the side. That allows a rounding of the edges also on cross bores.

Also brushes with **diamond** filling are available, that causes an even more aggressive surface of the brush.



Micro Interior Brushes, Steel Wire
Micro interior brushes with steel wire are used as thread brushes for descaling, deburring or cleaning:

- Cross corners
- Crossovers
- Tap holes
- Slots

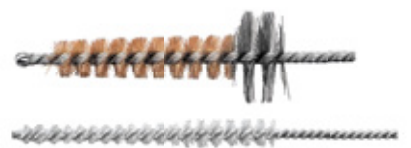
The brushes can be used either manually or mechanically.

Please do not hesitate to contact us, we will also find for special applications a compatible solution. Due to a fully automated production, LESSMANN offers high quality to reasonable prices.

Mechanical Application
Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**

Item Nos. in **bold** are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

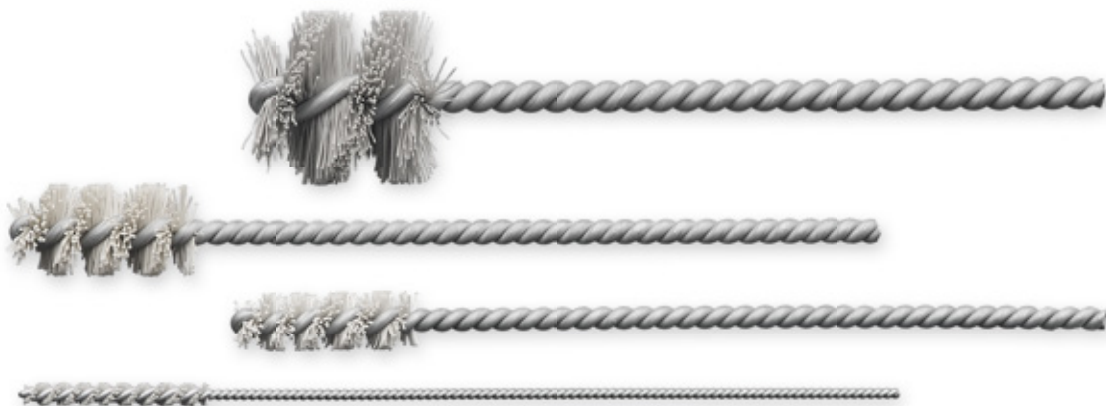
AO = aluminium oxide bristles



Stainless Steel Brushes
Information on working on stainless steel you find at www.lessmann.com

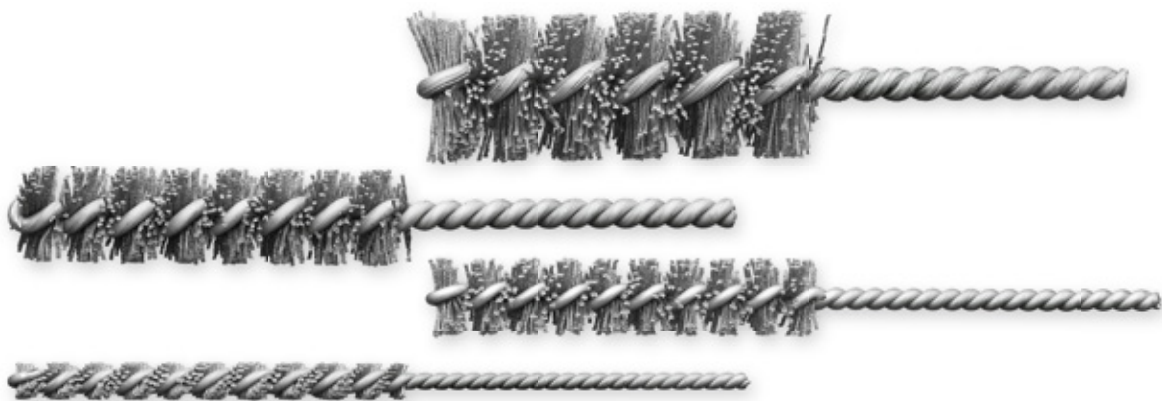
Mikro Interior Brushes are also available with special contours, e.g. **layered cut**.

Please ask for our special leaflet „Interior Brushes“.



Microabrasive Interior Brushes IBE, Aluminum Oxide Bristles								
D	GL	A	d	RPM	Pack.	AO 600/0.30		AO 1000/0.25
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.		Art.-No.
3.2 1/8	125 5	25 1	1.5 1/16	800	10	541.084		540.067
4.2 11/64	125 5	25 1	2.2 3/32	1,000	10	541.045		540.068
4.8 3/16	125 5	25 1	2.2 3/32	1,000	10	541.083		540.069
5.5 7/32	125 5	25 1	2.2 3/32	1,000	10	541.079		540.070
6.6 17/64	125 5	25 1	2.5 3/32	1,000	10	541.037		540.071
8.2 21/64	125 5	25 1	3.2 1/8	2,000	10	541.076		540.072
9.8 25/64	125 5	25 1	3.2 1/8	2,000	10	541.077		540.073
11.5 29/64	125 5	25 1	3.7 5/32	2,000	10	541.085		540.074
13 33/64	125 5	25 1	3.7 5/32	2,000	10	541.087		540.075
17.5 11/16	125 5	25 1	4.7 3/16	2,000	10	541.039		
16 5/8	125 5	25 1	3.7 5/32	2,000	10	541.089		540.076
20 51/64	125 5	25 1	4.7 3/16	2,000	10	541.093		540.077
25 1	125 5	25 1	4.7 3/16	2,000	10	541.095		540.078

Interior Brushes

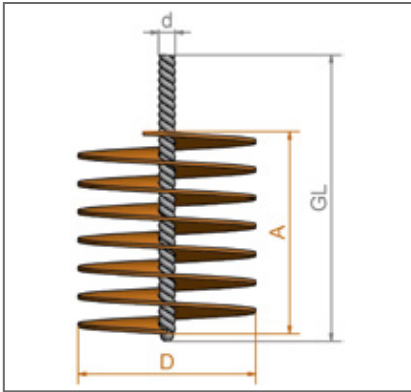


Microabrasive Interior Brushes IBE, Silicon Carbide Bristles									
D	GL	A	d	RPM	Pack.	SIC 120/0.6	SIC 320/0.6/**0,3	SIC 1000/0.25	
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.	
1.2 3/64	100 4	12 15/32	0.7 1/32	500	10			545.200.12*	
1.9 5/64	100 4	18 45/64	0.7 1/32	500	10			545.200.19	
2.2 3/32	100 4	18 45/64	0.9 1/32	1,000	10		543.200.22**	545.200.22	
2.6 7/64	100 4	25 1	1.0 3/64	1,000	10		543.200.26**	545.200.26	
3.2 1/8	100 4	25 1	1.7 1/16	1,000	10		543.200.32**	545.200.32	
4.2 11/64	125 5	25 1	2.2 3/32	1,000	10	541.200.42	543.200.42**	545.200.42	
5.5 7/32	125 5	25 1	2.2 3/32	1,000	10	541.200.55	543.200.55**	545.200.55	
6 15/64	125 5	65 2 9/16	3.0 1/8	1,500	10	541.200.60	543.200.60	545.200.60	
8 5/16	125 5	65 2 9/16	3.0 1/8	1,500	10	541.200.80	543.200.80	545.200.80	
10 25/64	125 5	65 2 9/16	3.7 9/64	2,000	10	541.201.00	543.201.00	545.201.00	
13 33/64	125 5	65 2 9/16	3.7 9/64	2,000	10	541.201.30	543.201.30	545.201.30	
16 5/8	125 5	65 2 9/16	5.2 13/64	2,000	10	541.201.60	543.201.60	545.201.60	
19 3/4	125 5	65 2 9/16	5.2 13/64	2,000	10	541.201.90	543.201.90	545.201.90	
20 51/64	125 5	65 2 9/16	5.7 7/32	2,000	10	541.202.00			
22 7/8	125 5	65 2 9/16	5.7 7/32	2,000	10	541.202.20	543.202.20	545.202.20	
25 1	125 5	65 2 9/16	5.7 7/32	2,000	10	541.202.50	543.202.50	545.202.50	
28 1 7/64	125 5	65 2 9/16	5.7 7/32	2,000	10	541.202.80	543.202.80	545.202.80	
30 1 3/16	125 5	65 2 9/16	5.7 7/32	2,000	10	541.203.00	543.203.00	545.203.00	
32 1 17/64	125 5	65 2 9/16	5.7 7/32	2,000	10	541.203.20	543.203.20	545.203.20	
38 1 1/2	125 5	65 2 9/16	5.7 7/32	2,000	10	541.203.80			

* Type IB: with straight / clipped off point

Mechanical Application

Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



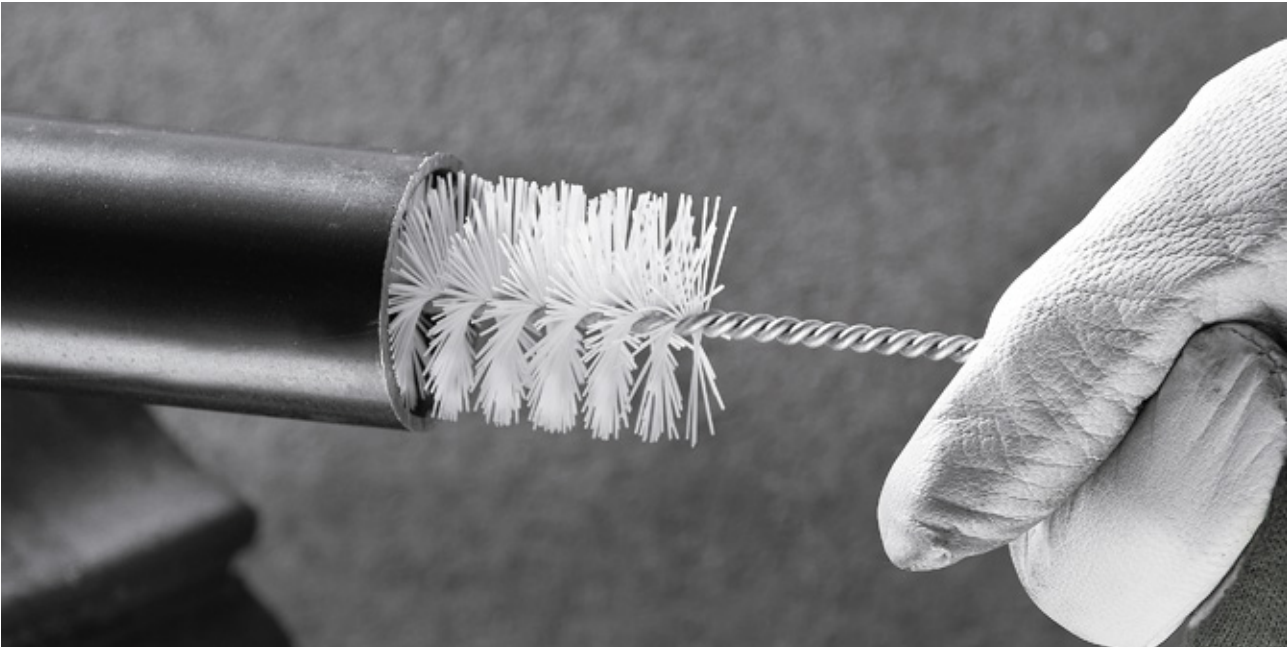
Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STH	= steel wire, high tensile, straight
ROH	= stainless steel wire, high tensile
MES	= brass wire
PA	= polyamide
SIC	= silicon carbide bristles

Micro Interior Brushes IBH, Steel Wire, Stainless Steel Wire									
D	GL	A	d	RPM	Pack.	STH 0.12 0.005"	STH 0.20 0.008"	ROH 0.12 0.005"	ROH 0.20 0.008"
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.	Art.-No.
6 15/64	90 3 1/2	25 1	3.2 1/8	3,500	10	564.220.60			
8 5/16	90 3 1/2	25 1	3.2 1/8	3,500	10	564.220.80			
10 25/64	90 3 1/2	25 1	3.8 5/32	3,500	10	565.321.00	565.341.00	565.521.00	
13 33/64	90 3 1/2	25 1	3.8 5/32	3,500	10	565.321.30	565.341.30	565.521.30	
16 5/8	90 3 1/2	25 1	3.8 5/32	3,000	10	565.321.60	565.341.60	565.521.60	565.541.60
19 3/4	90 3 1/2	25 1	3.8 5/32	3,000	10	565.321.90	565.341.90	565.521.90	565.541.90
20 51/64	90 3 1/2	25 1	3.8 5/32	3,000	10		565.342.00		565.542.00
21 53/64	90 3 1/2	25 1	3.8 5/32	3,000	10	565.322.10	565.342.10		
24 15/16	90 3 1/2	25 1	3.8 5/32	3,000	10	565.322.40			
25 1	90 3 1/2	25 1	3.8 5/32	3,000	10	565.322.50	565.342.50	565.522.50	565.542.50
29 1 9/64	90 3 1/2	25 1	3.8 5/32	3,000	10	565.322.90	565.342.90		565.542.90
32 1 17/64	90 3 1/2	25 1	3.8 5/32	3,000	10	565.323.20	565.343.20		565.543.20

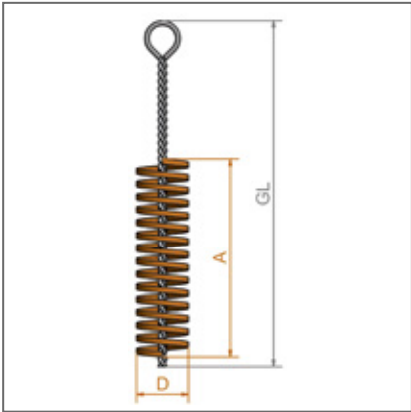
Micro Interior Brushes IBH, Brass Wire and Polyamide									
D	GL	A	d	RPM	Pack.	MES 0.15 0.006"	MES 0.20 0.008"	PA 0.30 0.012"	
mm inch	mm inch	mm inch	mm inch	max.		Art.-No.	Art.-No.	Art.-No.	
8 5/16	90 3 1/2	25 1	3.2 1/8	3,500	10	565.730.80			
10 25/64	90 3 1/2	25 1	3.8 5/32	3,500	10	565.731.00		565.061.00	
13 33/64	90 3 1/2	25 1	3.8 5/32	3,500	10	565.731.30		565.061.30	
16 5/8	90 3 1/2	25 1	3.8 5/32	3,000	10	565.731.60		565.061.60	
20 51/64	90 3 1/2	25 1	3.8 5/32	3,000	10		565.742.00	565.062.00	
25 1	90 3 1/2	25 1	3.8 5/32	3,000	10		565.742.50	565.062.50	

Cylinder Brushes



Cylinder Brushes

For manual cleaning and deburring of tubes, bores etc. Cylinder brushes are also available in other dimensions and materials. When ordering special sizes please mention full specification: total length, filling length, filling material, diameter and quantity.



Item Nos. in **bold** are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

- STA = steel wire
- ROF = stainless steel wire
- MES = brass wire
- PA = polyamide

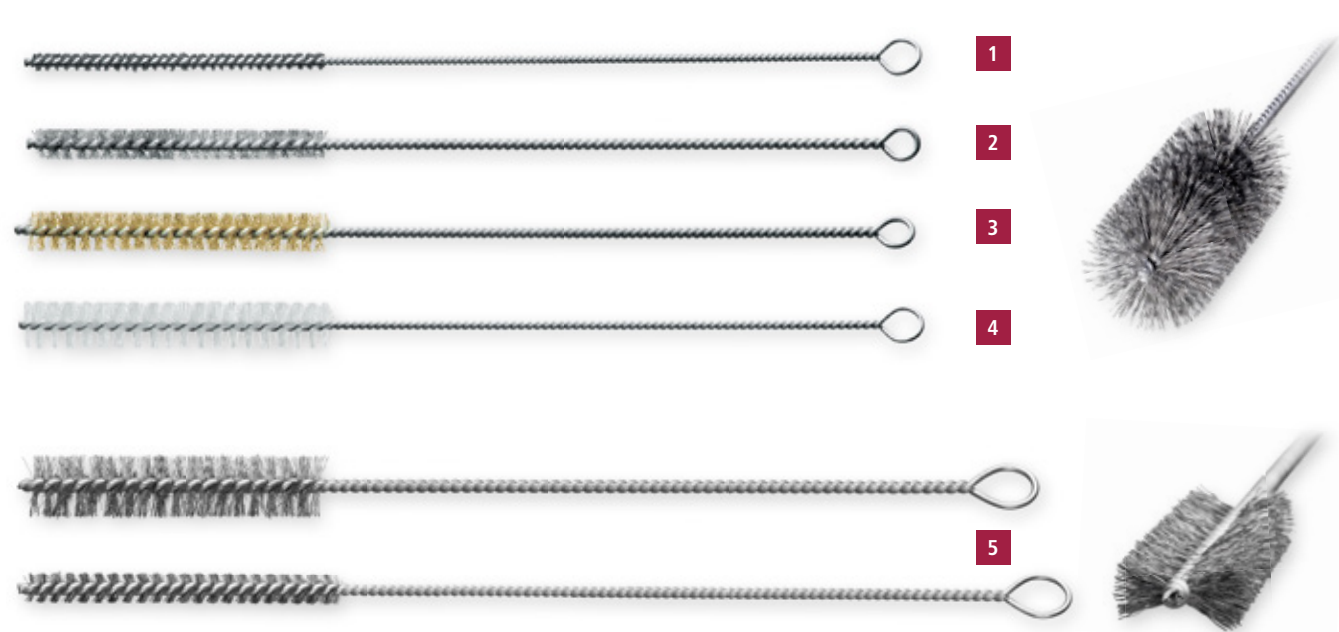
Cylinder brushes, flat filament

These flat brushes with fine, crimped steel wire are ideal for cleaning areas which are hard to reach. A typical application is removing isolation rests in channels of stators or electric motors.

Stainless Steel Brushes

Information on working on stainless steel you find at www.lessmann.com

5 Cylinder brushes, flat filament with Loop IBZ					
D	GL	A	Pack.	STA 0,15	STA 0,20
mm inch	mm inch	mm inch		Art.-No.	Art.-No.
4 x 10 5/32 x 25/64	350 14	100 4	10	559.810	
7 x 10 9/32 x 25/64	350 14	100 4	10	559.806	
8 x 12 5/16 x 15/32	350 14	100 4	10		559.802
8 x 15 5/16 x 19/32	350 14	100 4	10		559.803
10 x 18 25/64 x 45/64	350 14	100 4	10		559.804
10 x 22 25/64 x 7/8	350 14	100 4	10		559.805
12 x 26 15/32 x 1 1/32	350 14	100 4	10		559.807



Cylinder Brushes with Loop IBZ							
				1	2	3	4
D	GL	A	Pack.	STA	ROF	MES	PA
mm inch	mm inch	mm inch		Art.-No.	Art.-No.	Art.-No.	Art.-No.
3 1/8	300 12	100 4	10	542.381	542.541	542.741	542.881
4 5/32	300 12	100 4	10	542.351	542.508	542.740	542.823
5 13/64	300 12	100 4	10	542.347	542.538	542.739	542.822
6 15/64	300 12	100 4	10	542.301	542.501	542.701	542.801
8 5/16	300 12	100 4	10	542.302	542.502	542.702	542.802
10 25/64	300 12	100 4	10	542.303	542.503	542.703	542.803
12 15/32	300 12	100 4	10	542.304	542.504	542.704	542.804
13 33/64	300 12	100 4	10	542.305	<i>542.505</i>	542.705	<i>available on demand</i>
14 9/16	300 12	100 4	10	542.306	<i>542.506</i>	542.706	542.812
15 19/32	300 12	100 4	10	542.307	542.507	542.707	542.807
16 5/8	300 12	100 4	10	542.308	<i>available on demand</i>	<i>542.708</i>	542.808
18 45/64	300 12	100 4	10	542.309	<i>542.542</i>	542.709	542.818
20 51/64	300 12	100 4	10	542.311	542.511	542.711	542.811
25 1	300 12	100 4	10	542.313	542.513	542.713	542.813
30 1 3/16	300 12	100 4	10	542.315	542.515	542.715	542.815
40 1 5/8	300 12	100 4	10	542.319	<i>542.519</i>	542.719	542.819
50 2	300 12	100 4	10	542.320	<i>542.520</i>	542.720	542.820

Cylinder brushes (long version) with Loop IBZ							
D	GL	A	Pack.	STA	ROF	MES	PA
mm inch	mm inch	mm inch		Art.-No.	Art.-No.	Art.-No.	Art.-No.
10 25/64	500 20	100 4	10	547.303	<i>available on demand</i>	547.703	547.803
15 19/32	500 20	100 4	10	547.307	<i>available on demand</i>	547.707	547.807
20 51/64	500 20	100 4	10	547.311	<i>available on demand</i>	547.711	547.811
25 1	500 20	100 4	10	547.313	<i>available on demand</i>	547.713	547.813
30 1 3/16	500 20	100 4	10	547.315	<i>available on demand</i>	547.715	547.815

Hole Cleaning Brushes



Hole cleaning Brushes with Wooden Handle IBM						
				1	2	3
D	GL	A	Pack.	STA	ROF	MES
mm inch	mm inch	mm inch		Art.-No.	Art.-No.	Art.-No.
10 25/64	300 12	100 4	10	560.310	560.510	560.710
15 19/32	300 12	100 4	10	560.315	560.515	560.715
20 51/64	300 12	100 4	10	560.320	560.520	560.720
25 1	300 12	100 4	10	560.325	560.525	560.725
30 1 3/16	300 12	100 4	10	560.330	560.530	560.730
4 10/18 25/64 / 45/64	200 8	70 2 3/4	10	561.304*		

* conical filling

5 Cylinder Brushes with Shank 8 mm Ø IBG						
D	GL	A	RPM	Pack.	STA	
mm inch	mm inch	mm inch	max.		Art.-No.	
13 33/64	200 8	55 2 11/64	1,000	10	503.311	
20 51/64	200 8	55 2 11/64	1,000	10	503.313	
26 1 1/32	200 8	55 2 11/64	800	10	503.314	
32 1 17/64	200 8	55 2 11/64	800	10	503.316	
38 1 1/2	200 8	55 2 11/64	800	10	503.318	

Hole Cleaning Brushes

Those hole cleaning brushes have a wooden handle. Hence the brushes allow a very comfortable working in various application fields.

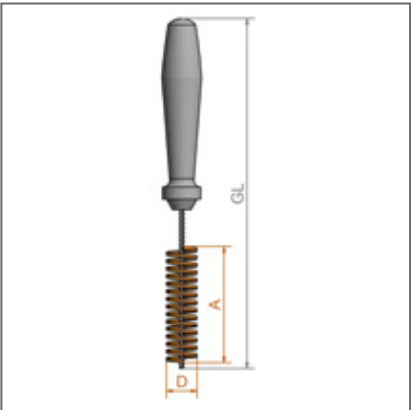
Typically the brushes are used in construction industry or handcraft business for cleaning bore holes or slots.

Besides, Hole Cleaning Brushes are ideal for cleaning threads or deburring cross holes.

The model 561.304 has the filling material conically cut.

Mechanical Application

Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**



Bore Hole Cleaning Brushes

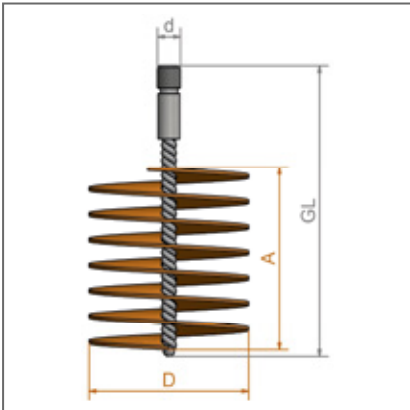


Interior Brushes for bore hole cleaning IBE, Steel, without Thread											
D		GL		A		Suitable for bore hole	RPM	Pack.	STA 0.10 0.004"	STA 0.15 0.006"	STA 0.20 0.008"
mm	inch	mm	inch	mm	inch	mm	inch	max.	Art.-No.	Art.-No.	Art.-No.
12	15/32	130	5 1/8	80	3	10	25/64	1,500	10	504.301	
14	9/16	140	5 1/2	80	3	12	15/32	1,500	10	504.302	
16	5/8	180	7	80	3	14	9/16	800	10		504.333
20	51/64	200	8	100	4	18	45/64	800	10		504.334
24	15/16	220	8 5/8	100	4	22	7/8	800	10		504.335
26	1 1/32	250	10	100	4	24	15/16	500	10		504.346
28	1 7/64	290	11 3/8	100	4	26	1 1/32	500	10		504.347

Bore Hole Cleaning Brushes IBG, Stainless Steel, with Thread												
D		GL		A		Suitable for bore hole		d	Pack.	ROF 0.10 0.004"	ROF 0.15 0.006"	ROF 0.20 0.008"
mm inch		mm inch		mm inch		mm inch				Art.-No.	Art.-No.	Art.-No.
12 15/32		130 5 1/8		80 3		10 25/64		M 6	10	504.501.06		
14 9/16		140 5 1/2		80 3		12 15/32		M 6	10	504.502.06		
16 5/8		180 7		80 3		14 9/16		M 6	10		504.533.06	
20 51/64		200 8		100 4		18 45/64		M 6	10		504.534.06	
24 15/16		220 8 5/8		100 4		22 7/8		M 6	10		504.535.06	
26 1 1/32		250 10		100 4		24 15/16		M 6	10			504.546.06
28 1 7/64		290 11 3/8		100 4		26 1 1/32		M 6	10			504.547.06

Bore Hole Cleaning Brushes

These interior brushes are used in the mounting techniques. The brushes are ideal for cleaning bore holes in most different materials. Afterwards screws and anchors can be inserted easily in the bore hole.



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire

ROF = stainless steel wire

MES = brass wire

Tube and Sleeve Brushes



Interior Brushes

These brushes are varied for many different uses: not only for cleaning of tubes, gratings, sleeves and cylinders. Interior brushes regulate current velocity in tubing systems. They are similar to the double spiral tube brushes for deburring cross drillings etc. On these pages are shown standard brushes, single spiral having two drilling wires and the double spiral having four.

Sleeve Brushes

Sleeve brushes have a double spiral and are particularly stable types of tube brushes whose trimming is cut to a conical point. Used in machines they are beneficial for cleaning the sleeves (internal threads) of containers, e.g. after galvanisation.

Mechanical Application

Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. **Only use the brush right rotating.**

Brushes with doublespiral

Brushes with a double spiral are mainly used for the treatment of larger diameters or for the treatment of hard materials. A double spiral is more stable and has a higher resistance against untwisting. Hence the brushes can be exposed to higher loads.

Stainless Steel Brushes

Information on working on stainless steel you find at www.lessmann.com

Special diameters

Minimum order € 125.00
Extra charge: Gross per piece
10 - 49 pcs + 50 %
50 - 99 pcs + 25 %
100 pcs and more + 10 %

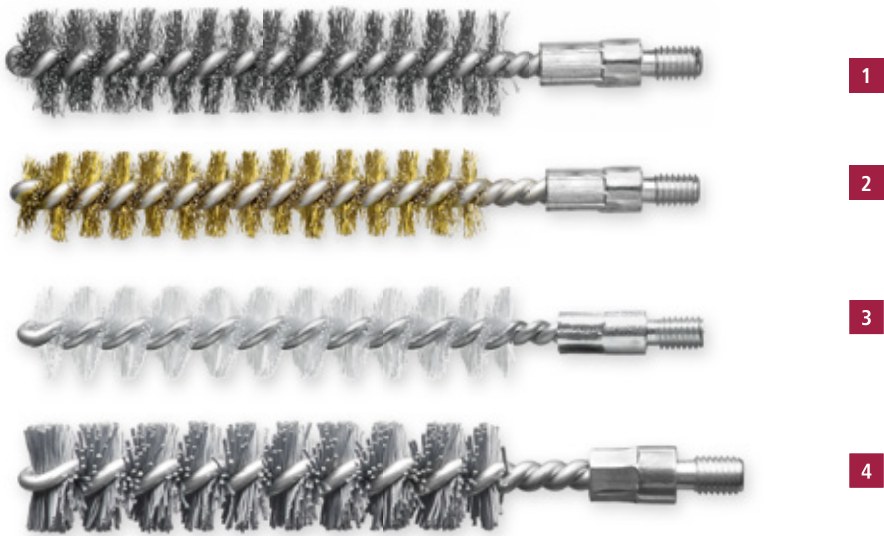
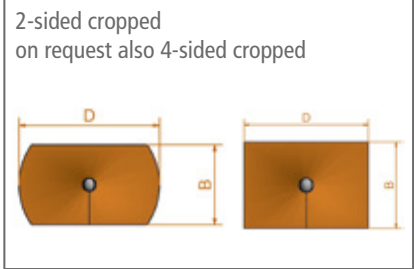
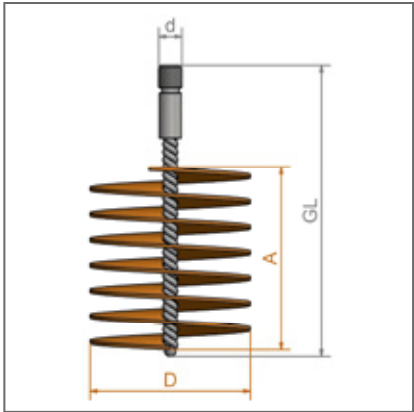
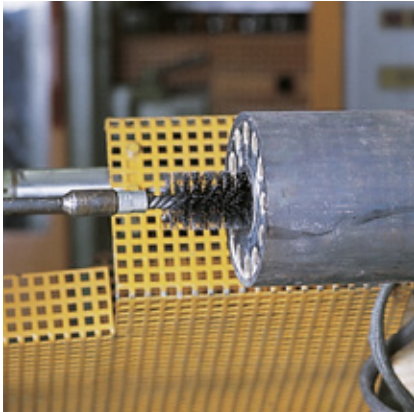
Special threads under reserve
Extra charge: Gross per piece
10 - 19 pcs + € 5.00
20 - 49 pcs + € 4.00
50 - 99 pcs + € 3.00
100 pcs and more + € 2.00

Suitable thread adapter,
see on page 119
Handles and Extension Pieces
see on page 119

On request tube brushes are also available with other measurements, other filling materials or other threads.

Item Nos. in **bold** are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire
ROF = stainless steel wire
MES = brass wire
PA = polyamide
SIC = silicon carbide bristles



Tube Brushes with external Thread IBG									
						1	2	3	
D	GL	A	d	RPM	Pack.	STA crimped Art.-No.	ROF crimped Art.-No.	MES crimped Art.-No.	PA straight Art.-No.
Single Spirale									
mm inch	mm inch	mm inch							
6 15/64	115 4 1/2	80 3	M 4	2,000	10	501.301	501.501	501.701	501.801
8 5/16	115 4 1/2	80 3	M 6	3,000	10	500.308	500.508	500.708	500.808
10 25/64	115 4 1/2	80 3	M 6	3,000	10	500.310	500.510	500.710	500.810
12 15/32	115 4 1/2	80 3	M 6	3,000	10	500.312	500.512	500.712	500.812
13 33/64	115 4 1/2	80 3	M 6	3,000	10	500.313	500.513	500.713	500.813
14 9/16	115 4 1/2	80 3	M 6	3,000	10	500.314	500.514	500.714	500.814
15 19/32	115 4 1/2	80 3	M 6	3,000	10	500.315	500.515	500.715	500.815
16 5/8	115 4 1/2	80 3	M 6	3,000	10	500.316	500.516	500.716	500.816
18 45/64	115 4 1/2	80 3	M 6	3,000	10	500.318	500.518	500.718	500.818
19 3/4	115 4 1/2	80 3	M 6	3,000	10	500.319	500.519	500.719	500.819
20 51/64	115 4 1/2	80 3	M 6	3,000	10	500.320	500.520	500.720	500.820

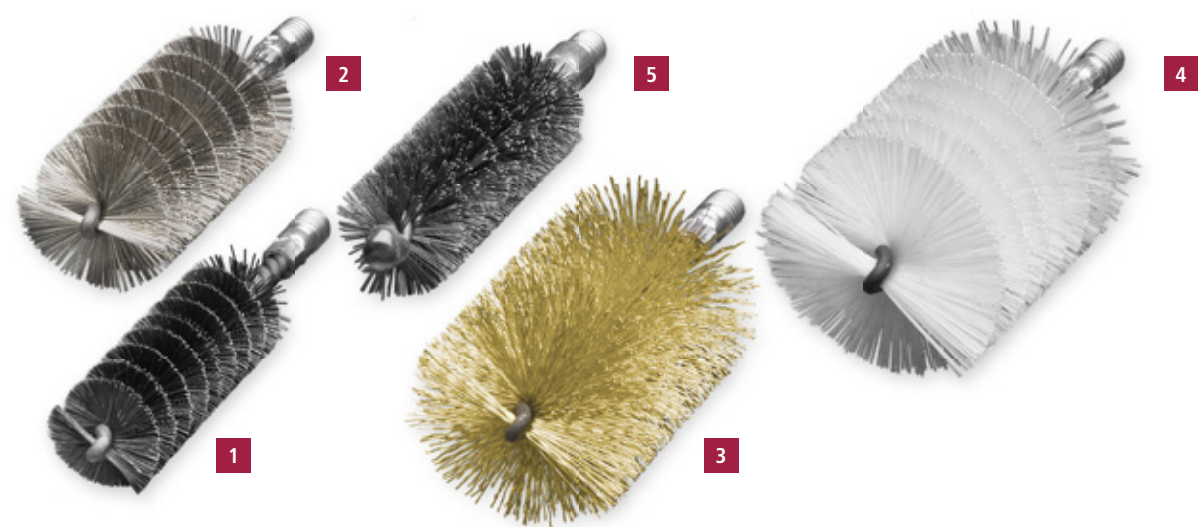
4 Interior Brushes with external thread IBG, Silicon Carbide Bristles							
D	GL	A	d	RPM	Pack.	SIC 180/0.9 Art.-No.	
Single Spirale							
mm inch	mm inch	mm inch					
10 25/64	115 4 1/2	80 3	M 6	4,000	10	500.010	
16 5/8	115 4 1/2	80 3	M 6	4,000	10	500.016	
20 51/64	150 6	100 4	W 1/2"	3,500	10	502.050.24	
22 7/8	150 6	100 4	W 1/2"	3,500	10	502.052.24	
25 1	150 6	100 4	W 1/2"	3,500	10	502.055.24	
28 1 7/64	150 6	100 4	W 1/2"	3,500	10	502.058.24	

We offer one for the
tube brushes
corresponding handle
on page 119



For all brushes with thread M 6, M 10, W 1/2" and W 3/8" a practical hanger assembly is available for presenting the brushes individually. More information you find on page 129.

Tube/Sleeve brushes

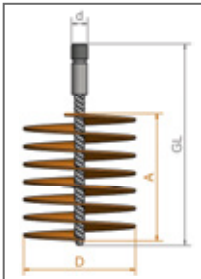


Tube Brushes with external Thread W 1/2"										
					1	2	3	4		5
Single Spirale IBG					Double Spirale IBGD					
D	GL	A	Pack.	RPM	STA straight	ROF straight	MES crimped	PA straight	RPM	STA straight
mm	mm	mm	mm	max.	Art.-No.	Art.-No.	Art.-No.	Art.-No.	max.	Art.-No.
20	150	100	10	2,500	502.120.24	502.420.24	502.720.24	502.820.24	2,000	522.120.24
22	150	100	10	2,500	502.122.24	502.422.24	502.722.24	502.822.24	2,000	522.122.24
25	150	100	10	2,500	502.125.24	502.425.24	502.725.24	502.825.24	2,000	522.125.24
28	150	100	10	2,500	502.128.24	502.428.24	502.728.24		2,000	522.128.24
30	160	100	10	1,000	506.130	506.430	506.730	506.830	1,500	526.130
32	160	100	10	1,000	506.132	506.432	506.732	506.832	1,500	526.132
35	160	100	10	1,000	506.135	506.435	506.735	506.835	1,500	526.135
38	160	100	10	1,000	506.138	506.438	506.738	506.838	1,500	526.138
40	160	100	10	1,000	506.140	506.440	506.740	506.840	1,500	526.140
44	160	100	5	1,000	506.144	506.444	506.744	506.844	1,500	526.144
50	160	100	5	1,000	506.150	506.450	506.750	506.850	1,500	526.150
57	160	100	5	1,000	506.157	506.457	506.757	506.857	1,500	526.157
63	160	100	5	1,000	506.163	506.463	506.763	506.863	1,500	526.163
69	160	100	5	1,000	506.169	506.469	506.769	506.869	1,500	526.169
75	160	100	5	1,000	506.175	506.475	506.775	506.875	1,500	526.175
82	160	100	5	1,000	506.182	506.482	506.782	506.882	1,500	526.182
88	160	100	5	1,000	506.188	506.488	506.788	506.888	1,500	526.188
94	160	100	5	1,000	506.194	506.494	506.794	506.894	1,500	526.194
101	160	100	5	1,000	506.101	506.401	506.701	506.801	1,500	526.101
125	160	100	5	1,000	506.106	506.406	506.706	506.806	1,500	526.106
150	160	100	5	1,000	506.211	506.411	506.711	506.811	1,000	526.111
200	160	100	5	1,000	506.220	available on demand	506.720	506.820	1,000	available on demand

Mechanical Application

Only use the brush with the indicated maximal peripheral speed (RPM max.). The max. RPM only is allowed when the brush is clamped min. for 10 mm into the tool. When the brush is inserted into the suitable work piece, higher RPMs are possible. Only use the brush right rotating.

We offer one for the tube brushes corresponding handle on page 119



Item Nos. in bold are available ex stock. Consider our minimum order value for *italic printed* article numbers (see page 152).

STA	= steel wire
ROF	= stainless steel wire
MES	= brass wire
PA	= polyamide



Tube Brushes with internal Thread / Boiler Brushes IBG										
B	D	Format	GL	A	d	RPM	Pack.	STA straight		PA straight
mm inch	mm inch		mm inch	mm inch		max.		Art.-No.	Art.-No.	
Single Spirale										
1	30 1 3/16	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.130.60		
	40 1 5/8	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.140.60		
	50 2	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.150.60		
	60 2 3/8	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.160.60		
	80 3	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.180.60		
	90 3 1/2	⊙	160 6 1/4	100 4	M 10i	1,000	10	507.190		
	101 4	⊙	160 6 1/4	100 4	M 10i	1,000	10	506.101.60		
	120 4 3/4	⊙	160 6 1/4	100 4	M 10i	1,000	10	507.105		506.805.60
2	20 51/64	⊙	140 5 1/2	80 3	M 10i		10	533.405		
	15 19/32	⊙	160 6 1/4	100 4	M 10i		10	533.408		
	30 1 3/16	⊙	160 6 1/4	100 4	M 10i		10	532.218.60		
	40 1 5/8	⊙	160 6 1/4	100 4	M 10i		10	532.214.60		
	50 2	⊙	160 6 1/4	100 4	M 10i		10	532.303.60		

Suitable back board brushes you find at page 113.

⊙ round | ⊖ 2-sided cropped | on request also 4-sided cropped

Sleeves Brushes Conical, without Thread							
D	GL	A	RPM	Pack.	Single Spirale IBE		Double Spirale IBD
mm inch	mm inch	mm inch	max.		STA crimped	Art.-No.	STA straight
3	10-20 25/64 - 51/64	170 6 3/4	100 4	1,000	10	541.372	549.101
	15-25 19/32 - 1	170 6 3/4	100 4	1,000	10	540.321	549.102
	20-30 51/64 - x 1 3/16	170 6 3/4	100 4	1,000	10	541.373	549.103
	25-35 1 - 1 3/8	170 6 3/4	100 4	1,000	10	540.323	549.104
	32-42 1 17/64 - 1 5/8	170 6 3/4	100 4	1,000	5	540.324	549.105
	40-50 1 5/8 - 2	170 6 3/4	100 4	1,000	5	540.325	549.106
	38-70 1 1/2 - 2 3/4	170 6 3/4	100 4	1,000	5	540.225	549.107
	60-95 2 3/8 - 3 3/4	170 6 3/4	100 4	1,000	5	540.327	549.108

On request also tube and sleeve brushes with crimped wire are available.

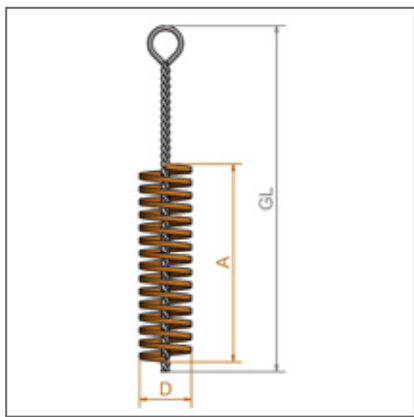
Boiler Brushes / Stove Pipe Brushes



Boiler Brushes

The systematic care of boilers and regular cleaning by brushing increases the boiler efficiency and reduces toxic emissions.

LESSMANN boiler brushes are of outstanding quality made using the best materials and precise manufacturing procedures. Our current programme includes brushes in standard dimensions and special executions. As OEM supplier to important boiler manufacturers we are able to produce large quantities in an efficient way. What is even more important is our know how in meeting the critical tolerances demanded by our customers.



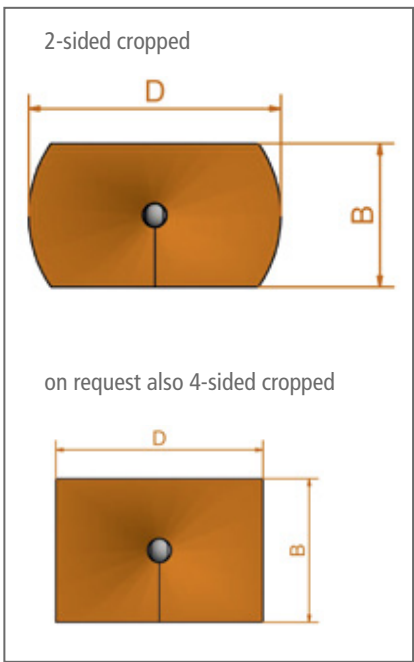
Stove Pipe Brushes

The stove pipe brushes are available in two different executions: with twisted handle (brush and handle one part) or with thread nipple, for screwing and lengthing by using a separate handle.

Handles and Extension Pieces

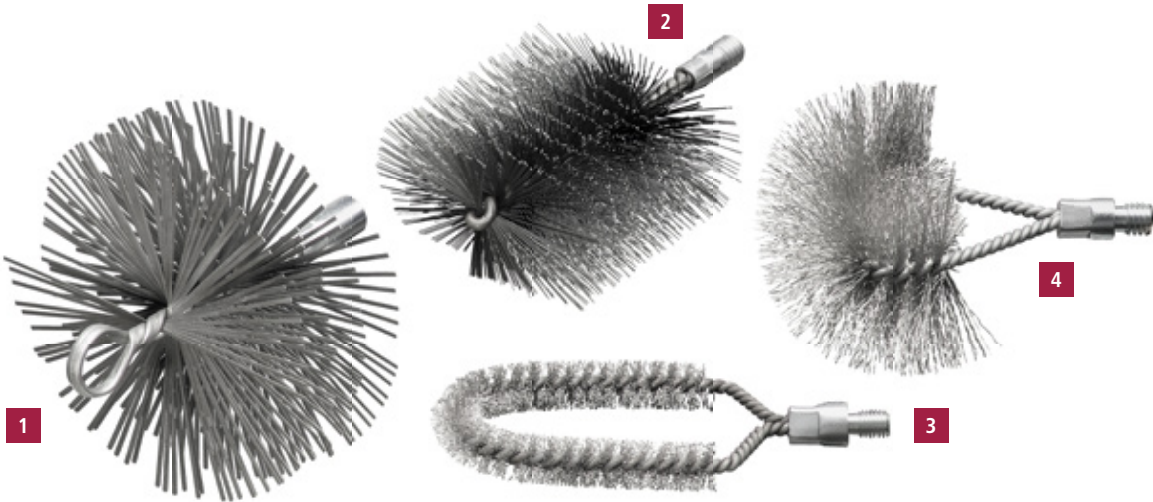
For tube brushes, boiler brushes and stove pipe brushes, see pages 111 - 113, 114 - 118. The twisted handles have an internal thread and a grip loop, the extension pieces have both an internal thread and an external thread.

Suitable Thread Adapters
see page 119



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STA = steel wire
PA = polyamide



1 Chimney Brushes with Eye and internal Thread IBZG, Flat Wire 2.0 x 0.40

Filling	D	GL	A	Internal Thread	d	Pack	Art.-No.	Filling	D	GL	A	Internal Thread	Pack	Art.-No.
STA flat	125	160	55	M 12 i		1	507.007	STA flat	250	160	55	M 12 i	1	507.004
STA flat	150	160	55	M 12 i		1	507.001	STA flat	300	160	55	M 12 i	1	507.005
STA flat	175	160	55	M 12 i		1	507.002	STA flat	350	160	55	M 12 i	1	507.006
STA flat	200	160	55	M 12 i		1	507.003							

Boiler Brushes with external Thread IBG, Steel Wire, rectangular/curved

Filling	B mm inch	D mm inch	Format	GL mm inch	A mm inch	d	Pack.	Art.-No.
PA straight	30 1 3/16	50 2	⊙	160 6 3/8	100 4	W 1/2"	5	533.008.24
PA straight	50 2	100 4	⊙	160 6 3/8	100 4	W 1/2"	5	<i>533.010.24</i>
STA straight	30 1 3/16	50 2	⊙	160 6 3/8	100 4	W 1/2"	5	532.218
2 STA straight	30 1 3/16	80 3	⊙	160 6 3/8	100 4	W 1/2"	5	532.211
STA straight	40 1 5/8	80 3	⊙	160 6 3/8	100 4	W 1/2"	5	532.202
STA straight	50 2	100 4	⊙	160 6 3/8	100 4	W 1/2"	5	532.203
STA straight	50 2	120 4 3/4	⊙	160 6 3/8	100 4	W 1/2"	5	532.205
3 STA crimped	18 45/64	70 2 3/4	curved	160 6 3/8	100 4	W 1/2"	5	529.301.24
STA crimped	30 1 3/16	80 3	curved	175 6 7/8	120 4 3/4	W 1/2"	5	529.302
4 STA crimped	80 3	150 6	curved	150 6	120 4 3/4	W 1/2"	5	529.311
PA straight	80 3	150 6	curved	150 6	120 4 3/4	W 1/2"	5	<i>529.811</i>
STA crimped	80 3	150 6	curved	150 6	120 4 3/4	M 10i	5	<i>529.301.60</i>

⊙ 2-sided cropped
on request also 4-sided cropped

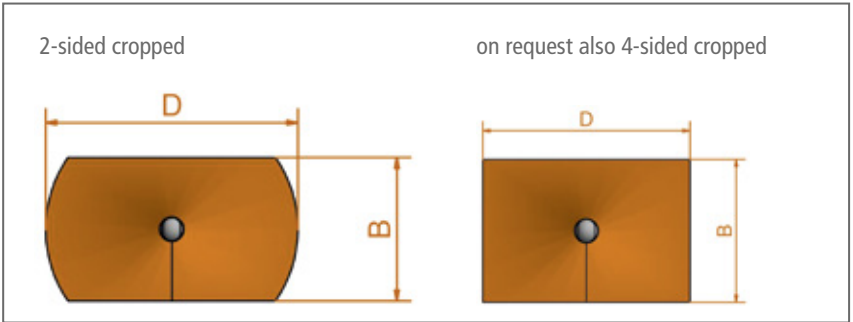
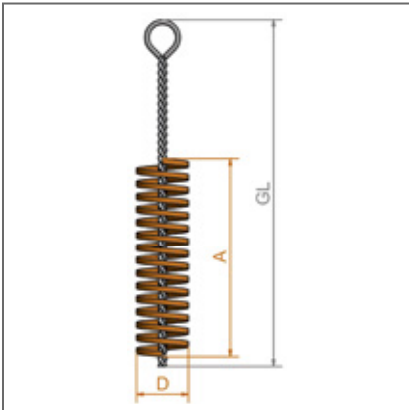
Boiler Brushes



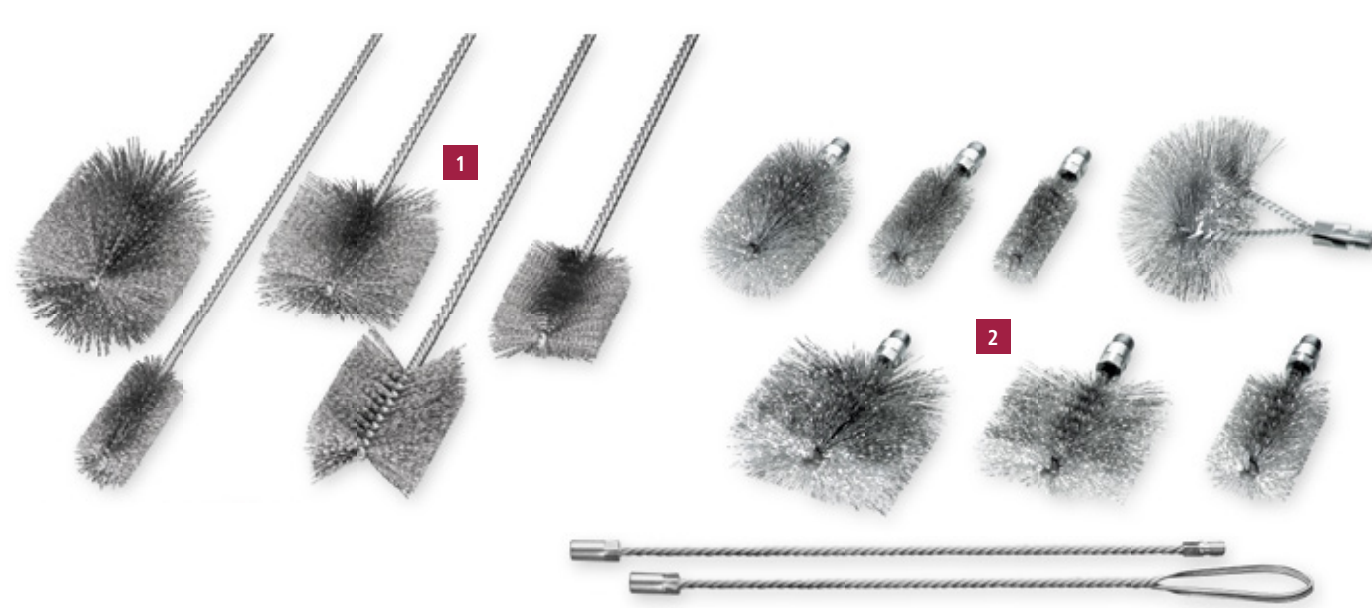
Boiler Brushes with Handle IBE							
	Filling	B mm inch	D mm inch	Format	GL mm inch	A mm inch	Pack. Art.-No.
1	PA straight		20 5/16	⊙	600 23 5/8	100 4	10 544.804
	STA crimped		50 2	⊙	700 27 1/2	100 4	10 544.301
	STA crimped		90 3 1/2	⊙	600 23 5/8	100 4	10 544.302
	STA crimped		10 25/64	⊙	850 33 1/2	100 4	10 545.320
	STA crimped		15 19/32	⊙	850 33 1/2	100 4	10 545.321
2	STA crimped		20 5/16	⊙	850 33 1/2	100 4	10 545.322
	STA crimped		25 1	⊙	850 33 1/2	100 4	10 545.307
	STA crimped		35 1 3/8	⊙	850 33 1/2	100 4	10 545.311
	STA crimped		50 2	⊙	850 33 1/2	100 4	10 545.312
	STA crimped		60 2 3/8	⊙	850 33 1/2	100 4	10 545.338
3	PA straight	12 15/32	14 9/16	⊖	600 23 5/8	150 6	10 554.903
	STA straight	17 43/64	50 2	⊖	960 38	60 2 3/8	10 564.101**
	STA crimped	30 1 3/16	50 2	⊖	800 31 1/2	100 4	10 551.801
	STA crimped	40 1 5/8	50 2	⊖	1,000 39 3/8	80 3	10 553.711
	STA straight	40 1 5/8	80 3	⊖	1,000 39 3/8	100 4	10 552.404
	STA crimped	40 1 5/8	90 3 1/2	⊖	1,000 39 3/8	80 3	10 564.301*
	STA straight	50 2	100 4	⊖	1,000 39 3/8	100 4	10 552.403

* Rod made from spring steel 5 Ø | ** with scooped scratcher in the handle

- ⊖ 2-sided cropped | on request also 4-sided cropped
- ⊙ round



Boiler Brushes-Sets



1 Brush Set, 5 pieces												
			Set with handle, big edition, steel wire				Set with handle, small edition, steel wire					
Content: 1 piece each	A	Format	Art.-No.	B	D	GL	Art.-No. Set	Art.-No.	B	D	GL	Art.-No. Set
Cylinder Brush	100	⊙	545.303		38	1.000	599.921	544.307		15	600	599.931
Cylinder Brush	100	⊙	545.331		100	1.000		544.361		25	800	
Boiler Brush	100	⊖	552.811	30	70	1.000		559.831	31	20	600	
Boiler Brush	100	⊖	552.816	50	100	1.000		551.811	30	20	500	
Boiler Brush	100	flat filament	559.713	75	30	1.000		551.812	50	40	700	

2 Brush Set, Steel Wire, external Thread W 1/2", crimped, 9 pieces							
Content: 1 piece each	B mm inch	D mm inch	GL mm inch	A mm inch	Format	Art.-No. Set	
506.330 Interior Brushes		30 1 3/16	160 6 1/4	100 4	⊙	599.962	
506.340 Interior Brushes		40 1 5/8	160 6 1/4	100 4	⊙		
506.363 Interior Brushes		63 2 1/2	160 6 1/4	100 4	⊙		
532.718 Boiler Brush	30 1 3/16	50 x 2	160 6 1/4	100 4	⊖		
532.716 Boiler Brush	30 1 3/16	90 3 1/2	160 6 1/4	100 4	⊖		
532.703 Boiler Brush	50 2	100 4	160 6 1/4	100 4	⊖		
529.311 Back board brush	80 3	150 6	150 6				
567.671 Handle with Eye			500 20				
567.771 Extension			500 20				

Brush Set, Polyamide Bristles, external Thread W 1/2", crimped, 9 pieces							
Content: 1 piece each	B mm inch	D mm inch	GL mm inch	A mm inch	Format	Art.-No. Set	
506.838 Interior Brushes		38 1 1/2	160 6 1/4	100 4	⊙	599.991	
506.855 Interior Brushes		55 2 1/4	160 6 1/4	100 4	⊙		
506.860 Interior Brushes		60 2 3/8	160 6 1/4	100 4	⊙		
533.008.24 Boiler Brush	30 1 3/16	50 2	160 6 1/4	100 4	⊖		
533.009.24 Boiler Brush	30 1 3/16	90 3 1/2	160 6 1/4	100 4	⊖		
533.010.24 Boiler Brush	50 2	100 4	160 6 1/4	100 4	⊖		
529.811 Back board brush	80 3	150 6	150 6				
567.671 Handle with Eye			500 20				
567.771 Extension			500 20				

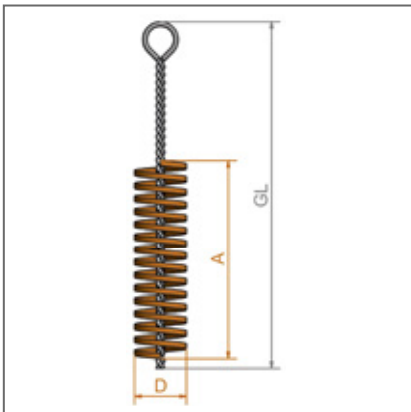
Stove Pipe Brushes



Stove Pipe Brushes with Twisted Handle IBZ						
	Filling	D mm inch	GL mm inch	A mm inch	Pack.	Art.-No.
1	STM	130 5 1/8	2,000 78 3/4	200 8	10	546.302
	STM	130 5 1/8	3,000 118	200 8	10	546.304
	STM	150 6	2,000 78 3/4	200 8	10	546.306
	STM	180 7	2,000 78 3/4	200 8	10	546.314
	STM	200 8	2,000 78 3/4	200 8	10	546.318
2	BAS	150 6	2,000 78 3/4	200 8	10	546.906
	BAS	150 6	3,000 118	200 8	10	546.908

Delivery only in noted packaging unit. If you need smaller quantities, please order stove pipe brushes with separate handle.

3 Stove Pipe Brushes with separate Handle IBZG						
	Filling	D mm inch	GL mm inch	A mm inch	d	Pack. Art.-No.
3	STM	80 3	275 10 7/8	200 8	M 10	5 507.307
	STM	100 4	275 10 7/8	200 8	M 10	5 507.308
	STM	130 5 1/8	275 10 7/8	200 8	M 10	5 507.301
	STM	150 6	275 10 7/8	200 8	M 10	5 507.302
	STM	160 6 3/8	275 10 7/8	200 8	M 10	5 507.303
	STM	180 7	275 10 7/8	200 8	M 10	5 507.304
	STM	200 8	275 10 7/8	200 8	M 10	5 507.305
	BAS	150 6	275 10 7/8	200 8	M 10	5 507.959



Item Nos. in bold are available ex stock.
Consider our minimum order value for *italic printed* article numbers (see page 152).

STM	=	brass coated steel
BAS	=	bassine black

Accessories



Handle with Eye					
	GL mm inch	d	Format	Pack.	Art.-No.
1	400 16	External M 10	round steel, straight	1	568.805
	800 31 1/2	External M 10	round steel, straight	1	568.802
	1,000 40	External M 10	round steel, straight	1	568.806
2	1,000 40	Internal M 4	twisted wire	1	566.603
	1,000 40	Internal M 6	twisted wire	1	566.601
	1,000 40	Internal M 10	twisted wire	1	566.602
	1,000 40	External M 12	twisted wire	1	567.201
	500 20	Internal W 1/2"	twisted wire	1	567.671
	1,000 40	Internal W 1/2"	twisted wire	1	567.601

3 Extension					
	GL mm inch	d	Format	Pack.	Art.-No.
3	1,000 40	Internal / External M 4	twisted wire	1	566.703
	1,000 40	Internal / External M 6	twisted wire	1	566.701
	1,000 40	Internal / External M 10	twisted wire	1	566.702
	1,000 40	Internal / External M 12	twisted wire	1	567.731
	500 20	Internal / External W 1/2"	twisted wire	1	567.771
	1,000 40	Internal / External W 1/2"	twisted wire	1	567.701

Adapter Threads					
			GL mm <i>inch</i>	Pack.	Art.-No.
4	Internal W 1/2"	Internal M 12	40 1 3/8	1	001.211
	Internal W 1/2"	Internal M 10	40 1 3/8	1	001.212
	Internal W 3/8"	Internal M 10	40 1 3/8	1	001.215
	External M 10	Internal W 1/2"	40 1 3/8	1	001.222
	External M 10	Internal W 3/8"	40 1 3/8	1	001.225
5	Internal W 1/2"	Shank Ø 6 mm	50 2	1	000.071
	Internal M 6	Shank Ø 6 mm	50 2	1	000.072
6	Internal W 1/2"		155 6	1	599.002
	Internal M 6		130 5 1/8	1	599.001

Fitting Brushes



II III
EAN

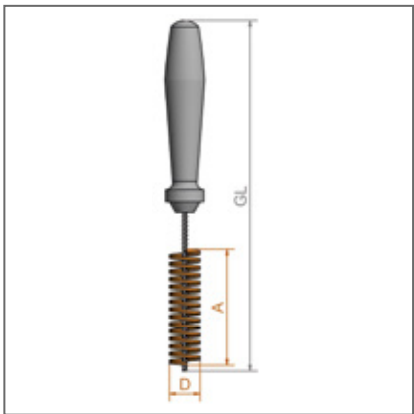
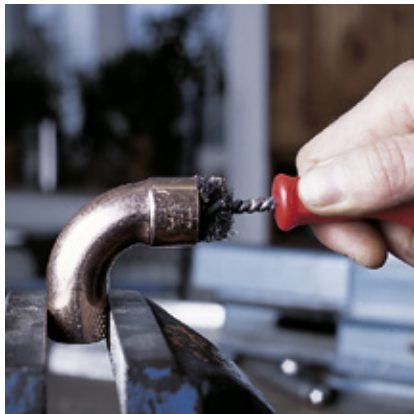
Interior Fitting Brushes IBM

D mm inch	GL	A	Filling Material	Pack.	Art.-No.
8 5/16	185	12	ROF 0.10 0.004"	10	562.508
10 25/64	185	12	ROF 0.10 0.004"	10	562.510
12 15/32	185	15	ROF 0.10 0.004"	10	562.512
15 19/32	185	20	ROF 0.15 0.006"	10	562.515
18 45/64	185	20	ROF 0.15 0.006"	10	562.518
22 7/8	185	25	ROF 0.20 0.008"	10	562.522
28 1 7/64	185	25	ROF 0.20 0.008"	10	562.528
35 1 3/8	185	25	ROF 0.20 0.008"	10	562.535

Fitting Brushes

With designed two-components handle
For the inner cleaning in tubes in gas, water
and climatic conditions. We use only stainless
steel wire as the filling material for these
brushes. This prevents long-term damage by
material deposit in tubes.

Recommendation for users: When using
interior fitting brushes, please only use brush-
es with stainless steel wire. This will avoid pit-
ting by the use of rusting wire parts.



Item Nos. in **bold** are available ex stock.
Consider our minimum order value for *italic printed*
article numbers (see page 152).

STA	= steel wire
ROF	= stainless steel wire
PP	= polypropylene

Brushes and Scratcher



1 Battery Terminal Brushes

Filling Material	D mm inch	GL mm inch	A mm inch	Pack.	Art.-No.
STA	17+24 43/64+15/16	120/180 4 3/4 / 7	60 2 3/8	12	563.301*

2 Soluble Oil Brushes

Filling Material	Ø Bundle mm inch	GL mm inch	H mm inch	Pack.	Art.-No.
mixed hair	7 9/32	150 6	40 1 5/8	100	570.907
mixed hair	10 25/64	240 9 1/2	55 2 1/4	100	570.910

3 Soldering Fluid Brushes

Filling Material	D mm inch	GL mm inch	H mm inch	Pack.	Art.-No.
bristles	10 25/64	123 4 7/8	20 51/64	100	045.910
bristles	15 19/32	140 5 1/2	25 1	100	045.915
STA	20 51/64	205 8 5/64	30 1 1/4	200	045.301

4 Rust Scratcher

Filling Material	D mm inch	GL mm inch	H mm inch	Pack.	Art.-No.
STA straight 0.23	5/8 13/64 / 5/16	100 4	6 15/64	180	184.101
STA Straight 0.23 0.009" + PP 0.15 0.006"	5/8 13/64 / 5/16	100 4	6+15 15/64 + 19/32	180	<i>184.104</i>

* conical filling

5 End Brush mutual filled

	D mm inch	GL mm inch	H mm inch	Pack.	Art.-No.
ROF straight 0.30 + spring steel strip 6.4 x 0.8	15 19/32	180 7	22/25 7/8/1	100	<i>184.412</i>

Battery Terminal Brushes

For cleaning of battery terminals. The twisted
brush is conical filled for cleaning connection
terminals of the battery cable. To clean the
battery terminals use the ringshaped filed
cards stuck in the handle.

Soluble Oil Brushes

With twisted wire handle for workshop use.

Soldering Fluid Brushes

The handle is made of tinned metal.

End brush with double-sided filling

End brushes with double-sided filling can be
used for the manual removal of zinc ash
without harming the zinc surface. Zinc ash is
the result of oxidation on the surface of zinc
baths. This happens usually on the edges of

steelgirders with head and base plates.

The spring steel strip on the one end of the
end brush is used to remove more solid parts
of dirt, whereas the with stainless steel wire
filled other side of the brush can be used to
remove the remaining dirt.