





Advanced Technology Brush



# Osborn worldwide.



Osborn offers the best solutions for your mechanical surface treatment challenges. Our experts are highly trained to serve you with the best off-the-shelf or customized tools, when and where you need them. Unlike others, we help you optimize your process, meet the highest quality and safety requirements and reduce your costs.

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# High-Tech Brushes for Automated Deburring.



### Edge rounding without changing the workpiece geometry.

Technical brushes are precision tools that take a major part of the responsibility for the quality of end products. They can be tailored to virtually any material machined in a componentoriented manner.

Our ATB® brushes are available to you with a large selection of abrasive bristles having silicone carbide or ceramic filament, with different grit sizes and filament diameters.

ATB® brushes are designed for direct adaption on tool holders with face mill arbors (DIN 6357) and shell mill mounts (DIN 6358). This means they can be used on machining centres, CNC millers & lathes and robot cells for example.

Brushes are deployed downstream of the machining process, and the use of cooling lubricants, emulsions and water poses no problems. This means the machined work pieces can be directly deburred and finished in a reliable and reproducible manner without reclamping on the machine.





**Before machining** - Distinct burrs on the edge. Milling grooves on the surface.

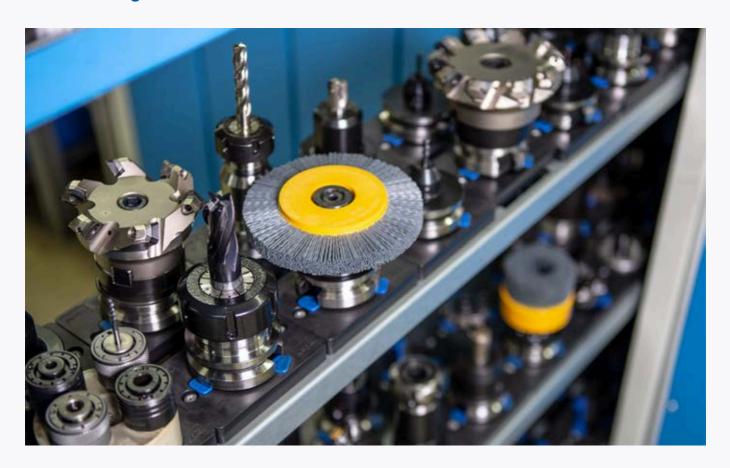




**After machining** - Burrs have been reliably removed and the edges rounded. The surface has a uniform, brushed appearance.



# **Deburring Directly After** the Machining Process.



### ATB® brushes are non-cutting tools.

ATB® brushes are non-cutting tools. They are used mainly for removing burrs and secondary burrs generated in the upstream machining process. The surface textures of components are positively influenced at the same time.

### Deburring directly after the machining process

Shorter cycle times and very uniform edge rounding, and so particularly suited for the deburring of:

- Milled and turned parts
- **Ground components**
- Sinter parts
- Punched, moulded and pressed parts
- Pneumatic and hydraulic parts
- Engine components such as cylinder heads and cylinder blocks
- Die-cast parts
- Valve plates
- Parts ground flat
- Toothed parts
- Contact and sealing surfaces
- Finishes

### **Maximum filament density Minimum process costs**

ATB® brushes have filament densities four times higher than disc brushes manufactured in the conventional way (punched). This means brush life is prolonged many times over - with at the same time quicker processing times and better and more efficient deburring results. Features:

- Bristles are securely casted
- Extremely dense filament surface
- Planar filament surface
- High abrasive grit content for effective deburring
- High levels of form stability and concentricity
- Aggressive brushing effect
- Can be tailored to any material machined
- Use with coolant possible/recommended
- Standardised face mill arbors and shell mill mounts
- Can be used on the same machining center/CNC machine directly after the upstream machining process



## **Features and Benefits** at a Glance.



### Many diameters and patterns

A wide range of diameters are available. In addition, both the fill length and the fill pattern can be individually adapted.

Benefit: With our individualized options, we can find you the best solution for your deburring application. An increase in the fill length can, for example, increase the service life and flexibility in order to deburr challenging components. Changing the fill pattern can increase the aggressiveness depending on the need.

### **Direct adaptation to tool holders**

For example HSK-/SK, face mill arbors and shell mill mounts.

Benefit: No separate handling/clamping. The ATB® brush can be stored in the tool magazine of the BAZ / CNC, deburring can be started immediately after the machining process without removing the part.





### 1. Resin cast body

The fill material is firmly cast into the bodies of our ATB®.

Benefit: ATB® can be run faster while maintaining its fill integrity, highly precise design with a high level of tilting rigidity while remaining lightweight.

### 3. High tech filaments

Nylon threads interspersed with abrasive grit (e.g. silicon carbide or ceramic) are the ideal fill material for deburring. Other materials are also available on request (e.g. diamond grain).

Benefit: The use in combination with coolants, emulsions or water is possible and is recommended especially for higher speeds and very thin workpieces.

### 2. Maximum bristle density

A maximum filament density with up to 4 times more bristles.

Benefit: Longer service life, more aggressive brushing action. Even very complex components can be deburred quickly and effectively.

### 4. Dimensionally stable and flat

The surface of ATB® is flat.

Benefit: Even edge rounding can be achieved, wear characteristics are consistent and controllable. There is uniform contact and repeatability.



### **Sample and Parts Processing**

If you are unsure whether you have already found the ideal tool for your industrial machining process, we recommend our parts and sample processing service. This is an excellent opportunity to put the quality of your tools currently in use to the test and, if necessary, replace them with a tool that is more suitable for the application.

We work with you to determine the ideal tools for processing your sample parts. Depending on the task, this may be a standard product or a customized product. We then define the most important parameters for machining the workpiece. Once we have received the sample parts from you and, if applicable, the current tools to be tested, we get to work in our test laboratory.





### **Machining of turned parts**

We can process a wide variety of components. For this purpose, the workpiece is put in a clamping device or on a rotary table and can then be machined. Process-relevant parameters such as rotati-onal speed, cutting speed, feeds, immersion depth, etc. can be set and the results are measured.

### **Complex parts**

Even complex workpiece geometries are no obstacle. We also manufacture customised solutions for your components.

### **Documentation**

After the parts have been machined, we create a detailed documentation of our inspection results for you. In our report we define the objectives, the test sequence and the conclusions. Based on this evaluation, you can compare the quality of the tools you are currently using with our solutions and make your decision.

### Put your deburring process to the Test We will be happy to advise you

Our application engineers will be happy to look at your application and help you choose the right tool to ensure that cycle time, machining results and costper-part are optimized. Request our parts and sample processing service today: **service@osborn.de** 





Appearance can vary from picture depending on variant.



EUIBWB001 | EVOLUTION ★★★★

# ATB® wheel brush with full trim, Cutter head holders/combined cutter arbor

ATB® wheel brush with longitudinal groove for direct clamping on tool holders (e.g. HSK, SK, BT) as cutter head holders and combi milling arbor holders. Feel free to ask our application engineers about general and specific application questions relating to the ATB® products.

- high density and concentricity
- process safety and high service life
- depending on the workpiece material to be machined, brushes are available with ceramic- (NH-C) and siliciumcarbide-trimming (NH-S)

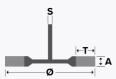
**Application:** On CNC machines, machining centres and on robot systems. Preferably to be used wet with cooling lubricant or oil. Suitable directly after machining for deburring and edge rounding on components with side and inner surfaces, as well as for fine machining of component contours.

Ø	т	В	В Туре	RPM max.	8	Silicon Carbide 120	Silicon Carbide 180
125	25	22	round	3500	1	• 2101-401 913	• 8401-401 913
Ø	т	В	В Туре	RPM max.	8	Ceramic 120	Ceramic 180
125	25	22	round	3500	1	• 2111-401 913	• 2121-401 913





Appearance can vary from picture depending on variant.



EUIBWB002 | EVOLUTION ★★★★

# ATB® wheel brush with full trim, shank adaption

ATB® wheel brush with shank for direct adaption on several tool holders. Please ask our application technicians for open requests and general questions about the ATB® products.

- high density and concentricity
- process safety and high service life
- depending on the workpiece material to be machined, brushes are available with ceramic- (NH-C) and siliciumcarbide-trimming (NH-S)
- high machine compatibility because of the shank adaption
- high flexibility in processing allows several customer specific variations

**Application:** On CNC machines, machining centres and on robot systems. Preferably to be used wet with cooling lubricant or oil. Suitable directly after machining for deburring and edge rounding on component

Ø	Т	Α	S		Silicon Carbide 120
70	12.5	10	6	1	• 3601-507 910
80	17.5	10	6	1	• 3601-508 910
100	27.5	10	6	1	• 3601-600 910





Appearance can vary from picture depending on variant.



EUIBDB001 | EVOLUTION ★★★★

# ATB® disc brushes with maximum fill density, compatible with clamping fixture

Can be used for deburring components made of the most diverse of materials, such as steel, aluminium and cast iron.

**Application:** For use on machining centers, CNC turning and milling machines and robot cells. For deburring milled, turned and ground components, sintered parts, punched, nippled and pressed parts, pneumatic and hydraulic parts, engine components, toothed parts, etc. Can be used on a wide variety of materials such as steel, aluminium, cast iron, etc.

Body Ø	т	В Туре	В	RPM max.	Ø		Silicon Carbide 80	Silicon Carbide 120	Silicon Carbide 180	Silicon Carbide 320
50	35	hexagonal	16	3500	46	1	• 6701-604 912	• 5411-604 912	• 5431-604 912	• 5441-604 912
76	35	hexagonal	16	3500	70	1	• 3111-604 913	• 9841-604 913	• 3311-604 913	• 3151-604 913
85	35	hexagonal	16	3500	80	1	• 6201-604 914	• 1601-604 914	• 2211-604 914	• 6231-604 914
106	35	hexagonal	16	3500	100	1	• 3101-604 914	• 3221-604 914	• 3321-604 914	• 3401-604 914

Body ∅	Т	В Туре	В	RPM max.	Ø		Ceramic 80	Ceramic 120	Ceramic 180	Ceramic 320
50	35	hexagonal	16	3500	46	1	• 2201-604 912	• 1301-604 912		
76	35	hexagonal	16	3500	70	1	• 1321-604 913	• 1331-604 913		
85	35	hexagonal	16	3500	80	1	• 1341-604 914	• 1351-604 914	• 1361-604 914	
106	35	hexagonal	16	3500	100	1		• 9901-604 914	• 4411-604 914	• 1381-604 914

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Appearance can vary from picture depending on variant.



### EUIBDB002 | EVOLUTION ★★★★

# ATB® disc brushes with maximum fill density, for tool holders

For deburring sealing and contact surfaces. The application should take place on stationary machines. Use with cooling lubricant, water, oil is recommended.

**Application:** For deburring sealing and contact surfaces. The application should take place on stationary machines. Use with cooling lubricant, water, oil is recommended.

Body Ø	т	В Туре	В	RPM max.		Silicon Carbide 80	Silicon Carbide 120	Silicon Carbide 180	Silicon Carbide 320
125	40	round	18.2	3500	1	• 3101-604 916	• 3201-604 916	• 3311-604 916	• 3401-604 916
150	40	round	18.2	3500	1	• 3111-604 916	• 3211-604 916	• 4341-604 916	• 3411-604 916
175	40	round	18.2	3500	1	• 3131-604 916	• 3231-604 916		• 3431-604 916
200	40	round	18.2	3500	1	• 8411-604 918	• 4021-604 918	• 5901-604 918	
250	38	round	18.2	3500	1	• 6511-604 919	• 6171-604 916	• 2401-604 919	

Body Ø	т	В Туре	В	RPM max.		Ceramic 80	Ceramic 120	Ceramic 180
125	40	round	18.2	3500	1	• 0101-604 916	• 0201-604 916	0311-604 916
150	40	round	18.2	3500	1		0211-604 916	0341-604 916
200	40	round	18.2	3500	1	• 1611-604 918	• 0021-604 918	
250	38	round	18.2	3500	1		• 8771-604 919	





Appearance can vary from picture depending on variant.



### EUIBDB003 | EVOLUTION ★★★★

# ATB® disc brushes with maximum fill density, for shell mill mount

For direct mounting on shell mill holders without need of further clamping set / system.

- For usage on stationary machines
- Usage with cooling lubricant, water or oil is recommended

**Application:** For the deburring of contact and sealing surfaces, and the functional areas of the most diverse of components.

Body ∅	т	В Туре	В	RPM max.	8	Silicon Carbide 80	Silicon Carbide 120	Silicon Carbide 180
50	35	round	16	3500	1	• 6601-604 912	• 6501-604 912	• 6401-604 912
76	35	round	16	3500	1	• 6301-604 913	• 6311-604 913	• 6321-604 913
76	35	round	22	3500	1	• 5521-604 913	• 5511-604 913	• 5501-604 913
106	35	round	16	3500	1	• 5431-604 914	• 5511-604 914	• 5441-604 914
106	35	round	22	3500	1	• 5501-604 914	• 5791-604 914	• 5521-604 914
125	35	round	16	3500	1	• 6751-604 916	• 6801-604 916	• 6631-604 916
125	35	round	22	3500	1	• 6721-604 916	• 6821-604 916	• 6621-604 916
125	35	round	27	3500	1	• 6761-604 916	• 6811-604 916	• 6641-604 916
150	35	round	22	3500	1	• 6771-604 916	• 6841-604 916	• 6651-604 916
150	35	round	27	3500	1	• 6781-604 916	<ul><li>6831-604 916</li></ul>	• 6661-604 916

Body Ø	т	В Туре	В	RPM max.		Ceramic 80	Ceramic 120	Ceramic 180
50	35	round	16	3500	1		• 1431-604 912	
76	35	round	22	3500	1	• 1451-604 913	• 5991-604 914	• 1461-604 913
106	35	round	22	3500	1		• 1431-604 914	
125	35	round	22	3500	1	• 2431-604 916	• 2441-604 916	• 2451-604 916
125	35	round	27	3500	1	• 6991-604 916	• 2461-604 916	
150	35	round	22	3500	1	• 1061-604 916	• 1071-604 916	

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Appearance can vary from picture depending on variant.



### EUIBDB004 | EVOLUTION ★★★★

# **ATB**<sup>®</sup> disc brushes with segmented trimming, Turbo-line

### Brushes for use on continuous deburring systems with planetary heads.

■ The trim position of ATB® Turbo-Line brushes can optionally be angled to the left or right at a defined angle. Depending on the direction of rotation, this can bring about more aggressive and effective deburring, or can limit the brush to a surface finish only.

**Application:** For use on continuous deburring systems with planetary heads. Used for flat parts that have to be produced and deburred by punching, laser, fine blanking and forming processes.

Body	Т	B Type	В	Fill Mat. Angle	RPM max.		Silicon Carbide 80	Silicon Carbide 120	Silicon Carbide 180	Silicon Carbide 320
150	25	step	25	left	3500	1	• 3161-604 916	• 3261-604 916	• 3371-604 916	• 3461-604 916
150	25	step	25	neutral	3500	1	• 3141-604 916	• 3241-604 916	• 3351-604 916	• 3441-604 916
150	25	step	25	right	3500	1	• 3181-604 916	• 3281-604 916	• 3391-604 916	• 3481-604 916

Body	т	B Type	В	Fill Mat. Angle	RPM max.		Ceramic 80	Ceramic 120	Ceramic 180	Ceramic 320
150	25	step	25	left	3500	1	• 0161-604 916	• 2191-604 916		
150	25	step	25	neutral	3500	1	• 0141-604 916	• 0241-604 916	• 0351-604 916	• 0441-604 916
150	25	step	25	right	3500	1	• 0181-604 916	0281-604 916	• 0391-604 916	





Appearance can vary from picture depending on variant.



EUIBEB001 | EVOLUTION ★★★★

## ATB® end brush, shank adaption

ATB® end brush with shank for direct adaption on several tool holders. Please ask our application technicians for open requests and general questions about the ATB® products.

- high density and concentricity
- process safety and high service life
- depending on the workpiece material to be machined, brushes are available with ceramic- (NH-C) and siliciumcarbide-trimming (NH-S)
- high machine compatibility because of the shank adaption
- high flexibility in processing allows several customer specific variations

**Application:** On CNC machines, machining centres and on robot systems. Preferably to be used wet with cooling lubricant or oil. Suitable directly after machining for deburring and edge rounding on components with side and inner surfaces, as well as for fine machining of component contours.

Ø	Body ∅	т	S	L	8	Silicon Carbide 120	Ceramic 80
16	14	25	6	100	1	• 7921-509 911	
18	18	25	6	100	1	• 7931-509 911	
20	20	23	6	82	1	• 1701-509 911	
20	20	25	6	90	1		• 3301-509 911
25	25	30	6	85	1	• 7911-509 911	• 7971-509 911
31	30	25	6	89	1	• 3601-509 914	





EUIBAC001 | EVOLUTION ★★★★

# **Clamping fixtures for ATB® disc brushes**

Clamping fixtures with shank-Ø 12 mm and clamping surface DIN 6535-HB. Compatible with ATB® disc brushes including a hexagonal mounting bore.

Appearance can vary from picture depending on variant.

Ø	adapt. to	Adapt.	8	Item Number
50	12 DIN 6535-HB	K	1	• 5002-075 000
76	12 DIN 6535-HB	L	1	• 3642-075 000
85	12 DIN 6535-HB	J	1	• 9602-075 000
106	12 DIN 6535-HB	Н	1	• 3652-075 000
125	HSK - 63 / SK - 40	С	1	• 3602-075 000
150	HSK - 63 / SK - 40	D	1	• 3612-075 000
175	HSK - 63 / SK - 40	Е	1	• 3622-075 000
200	HSK - 63 / SK - 40	F	1	• 3692-075 000
250	HSK - 63 / SK - 40	G	1	• 1922-075 000



EUIBAC002 | EVOLUTION ★★★★

### Tool holders for ATB® disc brushes

Compatible with ATB® disc brushes including a Ø18 mm central bore with driving bores.

Appearance can vary from picture depending on variant.

adapt. to	Adapt.		Item Number
WELDON S. Ø 12, HSK - A63	H, J, K, L	1	• 4933-604 000
WELDON S. Ø 12, HSK - A100	H, J, K, L	1	• 6303-604 000
SK - 40, DIN 69871	C, D, E, F, G	1	• 3613-604 000
HSK - A63, DIN 69893	C, D, E, F, G	1	• 3603-604 000
HSK - A100, DIN 69893	C, D, E, F, G	1	• 3633-604 000



### **Terms & conditions and** contact adresses.

Refer to our website for our general terms of payment and delivery and further information on ordering and dispatch.

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