



## DIAMOND & CBN-TOOLS



**BÄRHAUSEN**  
Germany



**BÄRHAUSEN**  
Korea

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## BEFORE WORK

Before use, please make sure that the machine is free of objections. It must not show any vibration. The shaft and the disc flanges must be checked carefully so that the disc runs straight without any vertical or lateral runout. For wet grinding please ensure that the coolant is fed sufficiently into the grinding zone.

## PERIPHERAL SPEED

Check the speed with which your disc works. The normal average working speed is 25 m/s. It is better to differentiate.

super-abrasives	bond	wet grinding [m/s]	dry grinding [m/s]
Diamant	resin	15 - 30	10 - 20
	metal	15 - 30	10 - 15
	electroplated	10 - 30	5 - 15
	vitrified	10 - 30	
CBN	resin	20 - 50	15 - 25
	metal	15 - 80	
	electroplated	25 - 50	10 - 25
	vitrified	30 - 60	

## INFEEED DEPTH

The infeed depth position depends on the Diamond/CBN grit size. It decreases the finer the grit is selected.

The following infeed depths are recommended:

2 / 100 mm	when using grit	251 - 126
1 / 100 mm	when using grit	107 - 76
5 µm	when using grit	64 - 46
2 - 4 µm	when using grit	30
1 - 1.5 µm	when using grit	25 - 15

In order to obtain the best possible surface quality, it is sufficient to reduce these infeed depths or, even better, to run the disc several passes without infeed, sparking out, on the material. The lifetime of the wheel will be reduced by a too high infeed. A large contact zone requires a lower infeed than the above given average. Metal-bonded Diamond / CBN wheels must run with less infeed than bachelite-bonded wheels.

## BONDS

The bond is decisive for the grinding performance and grinding quality. Hard bonds achieve a high overall grinding performance (lifetime), but have less cutting efficiency, i.e. the amount of material removed per time unit. The right choice of bond depends not only on the working material, but also on the desired method of operation.

The **resin bonds**, e.g. polyimide bonds, are the most common bonds. The resin bond also has the most bond variants and thus enables an optimal adaptation of the grinding operation, the workpiece and its processing. They are suitable for both dry and wet grinding.

The **metal sinter bonds** consist mainly of bronze and iron compounds with additives optimised for each application. The metal bond has a lower cutting performance compared to the resin bond, but a much higher profile retention and wear resistance due to its higher mechanical strength and thermal load capacity.

In **electroplated bonding**, Diamond or CBN grains are mechanically applied to the tool by a nickel bond. Due to this method, the grain is extremely open and thus enable a high cutting performance on the material.

The **vitrified bond** is very well suited for automated grinding processes and series production due to its dressability. It is mainly used for long-chipping materials and as CBN grinding tool (from 54 HRc), e.g. excellent internal grinding ability.

When choosing the bond, it is important that the grain is kept in the binding as long as it still has cutting edges. However, if the grains become blunt, they must break out of the bond. If the grain holding force is too high, the grinding pressure and temperature will increase. The grinding wheel becomes clogged, smears and loses its stock removal rate.

## GRINDING WHEEL BODY

**consisting of:** Aluminium / Steel /  
Ceramics / Bakelite /  
Composite materials



## DIAMOND- / CBN-GRIT SIZES

### examples:

300 - 251	Roughing
181, 151, 126	Rough grinding
126, 107, 91, 76, 64	Finish grinding
76, 64, 54	Profile grinding
64, 54, 46, 30	Fine grinding
20, 15, 7	Lapping

## DIAMOND-/CBN-CONCENTRATION

The Diamond/CBN-concentration results from the percentage share of volume of the Diamond/CBN coating compared to the volume of the Diamond/CBN coating in pure Diamond/CBN grit. Concentration C100 = 4.4 ct/cm coating volume.

The most common concentrations are:

C50 = 2.2 ct/cm <sup>3</sup>	C100 = 4.4 ct/cm <sup>3</sup>
C75 = 3.3 ct/cm <sup>3</sup>	C125 = 5.5 ct/cm <sup>3</sup>

## WORTH KNOWING

**Diamond** (100 % pure carbon) is, due to its hardness (Moossche-Hardness-Scale 10), an ideal abrasive for very hard materials above 65 HRc.

**Cubic boron nitride** - CBN - is produced exclusively synthetically. The application for CBN is grinding, turning and milling of hardened tool-steel above 58 - 65 HRc.

MATERIAL	Diamond	CBN
ASP / sintered iron		•
spray alloys	•	•
thermosets	•	
glass fibre reinforced plastics	•	
case hardening steels		•
spring steels		•
ferrite, germanium, silicon	•	
glass, quartz, precious- and semi-precious stones granite	•	
graphite, electric carbon	•	
chilled cast iron	•	•
carbide, also pre-sintered	•	
carbide/steel combination	•	
high alloy steels		•
HSS		•
corundum abrasives	•	
ball bearing steels		•
natural and artificial stones, refractory materials	•	
oxide ceramic and ceramic materials	•	
porcelain, stoneware, steatite	•	
rust and heat resistant steels (Cr-Ni-Mo steels)		•
silicon or corundum abrasives	•	
high-speed steels, SS		•
titanium	•	
heat-treatable steel		•
wear-resistant build-up welding	•	•
hot and cold work steel		•
tungsten	•	

## GRIT SIZE

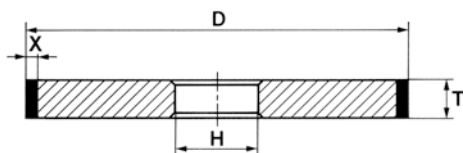
rough ←

FEPA	501	426	356	301	251	213	181	151
MESH	34 - 40	40 - 45	45 - 50	50 - 60	60 - 70	70 - 80	80 - 100	100 - 120
Mikron	500 - 425	425 - 355	355 - 300	300 - 250	250 - 212	212 - 180	180 - 150	150 - 125
FEPA	126	107	91	76	64	54	46	30
MESH	120 - 140	140 - 170	170 - 200	200 - 230	230 - 270	270 - 325	325 - 400	400 - 500
Mikron	125 - 106	106 - 90	90 - 75	75 - 63	63 - 53	53 - 45	45 - 40	40 - 36

→ fine

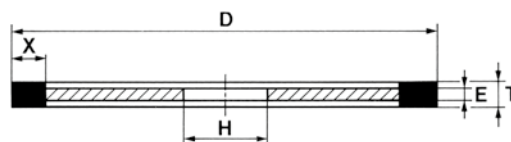
**1A1**

**D - T - X - H**



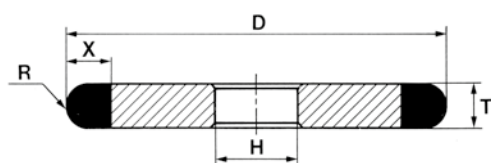
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**D - T - X - E - H**



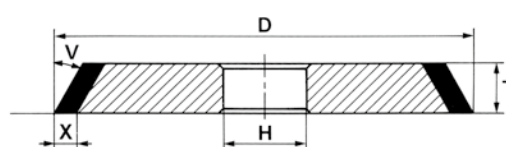
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**D - T - X - H - R**



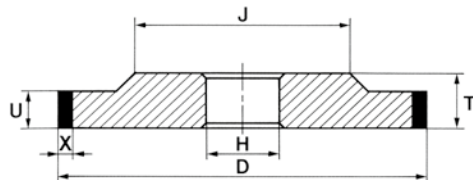
**1V1**

**D - T - X - H - V°**



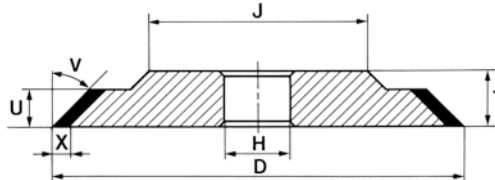
**3A1**

**D - U - X - H - T - J**



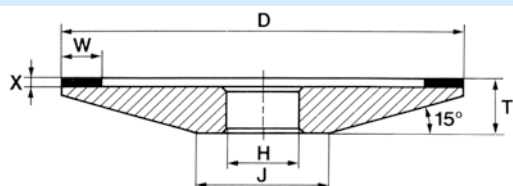
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**D - U - X - H - T - J - V°**



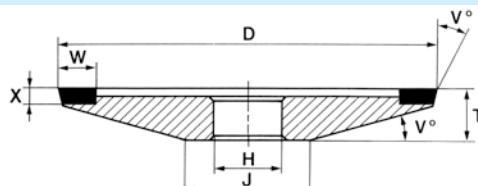
**4A2**

**D - W - X - H - T - J**



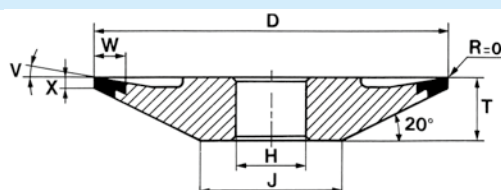
**4B9**

**D - W - X - H - T - J - V°**



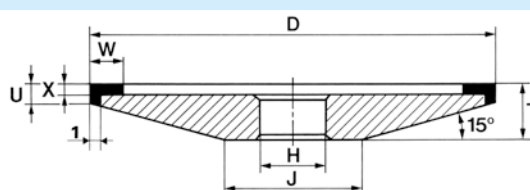
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**D - W - X - H - T - J - V°**



**4C9**

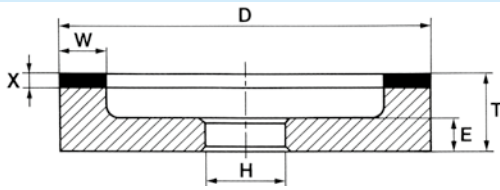
**D - W - X - U - H - T - J**



Please state all dimensions of the respective grinding wheel when ordering.

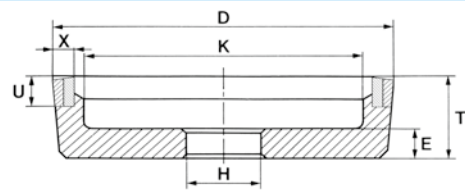
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D - W - X - H - T - E



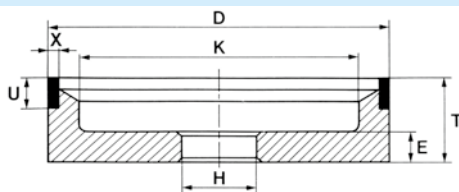
**6A9 Double Grain**

D - U - X - H - T - E - K



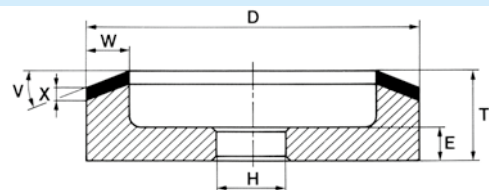
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D - U - X - H - T - E - K



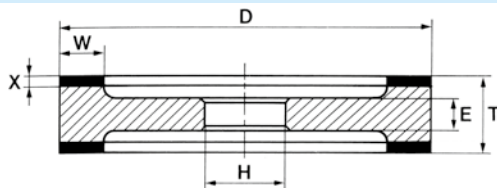
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D - W - X - H - T - E - V°



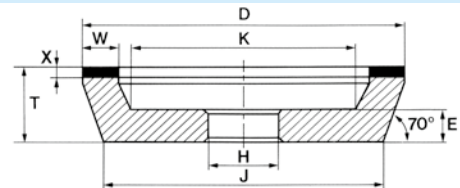
**9A3**

D - W - X - H - T - E



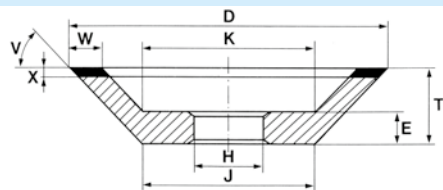
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D - W - X - H - T - E - K - J



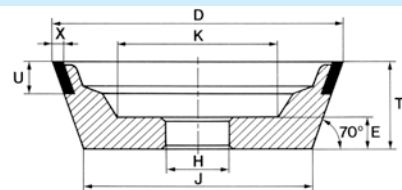
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D - W - X - H - T - E - K - J - V°



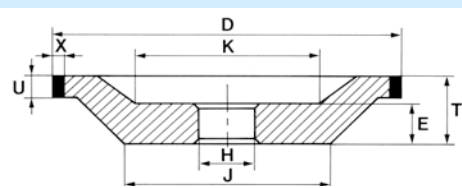
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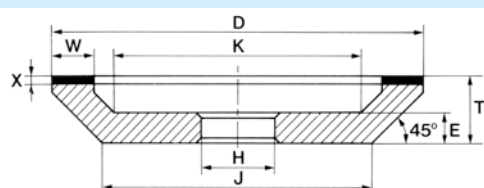
**12A1**

D - U - X - H - T - E - K - J



**12A2-45°**

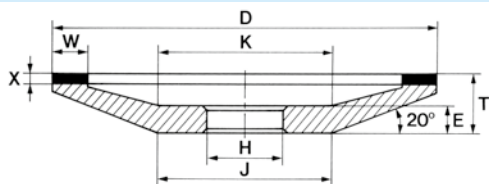
D - W - X - H - T - E - K - J



Please state all dimensions of the respective grinding wheel when ordering.

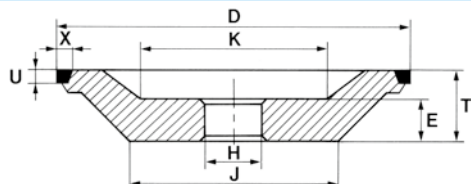
**12A2-20°**

D - W - X - H - T - E - K - J



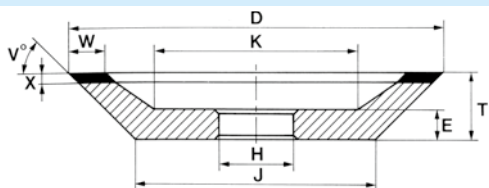
**12B9**

D - U - X - H - T - E - K - J



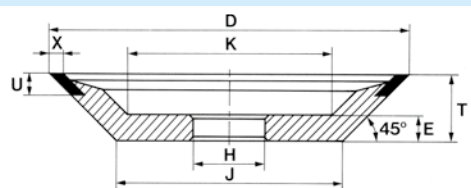
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D - W - X - H - T - E - K - J - V°



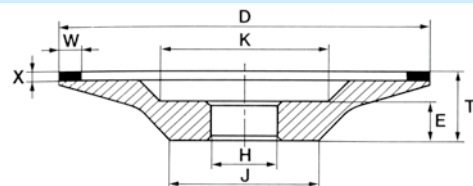
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D - U - X - H - T - E - K - J



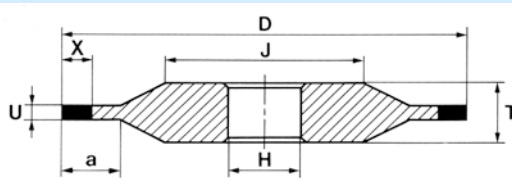
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D - W - X - H - T - E - K - J



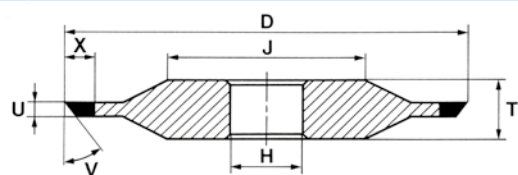
**14A1**

D - U - X - H - T - J - a



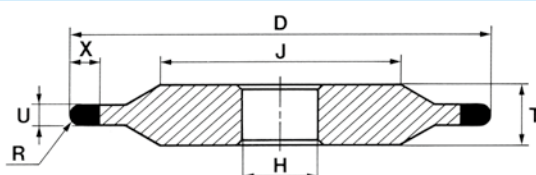
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D - U - X - H - T - J - V°



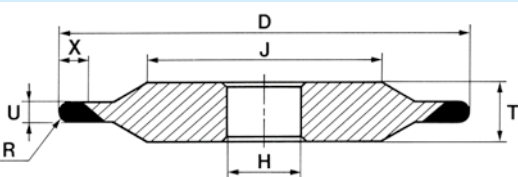
**14F1**

D - U - X - H - T - J - R



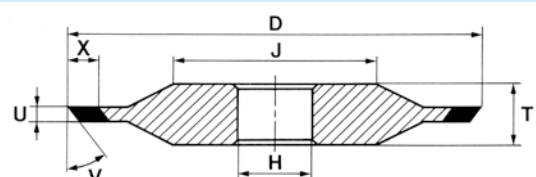
**14Q1**

D - U - X - H - T - J - R

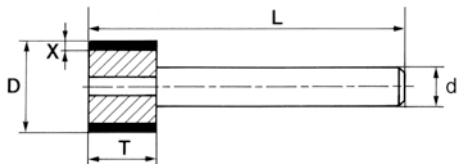
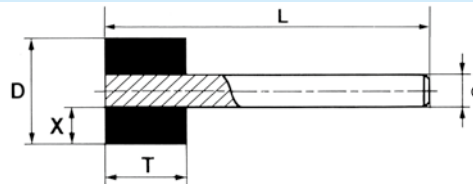
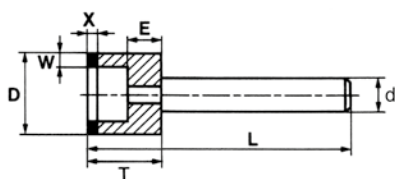
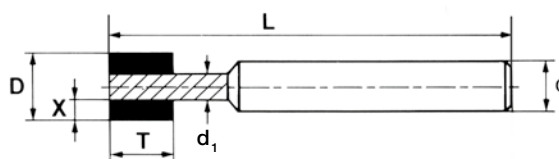


**14V1**

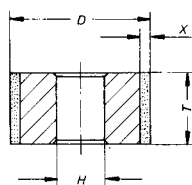
D - U - X - H - T - J - V°





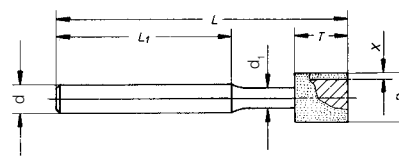
**1A1W**
**D - T - X - L - d**

**1A8W**
**D - T - X - L - d**

**6A2W**
**D - W - X - T - E - L - d**

**1A8W**
**D - T - X - L - d - d<sub>1</sub>**


## DIA / CBN - INTERNAL GRINDING WHEELS

**1A1**


D	T	X	H
8	6	2	4
8	10	2	4
10	6	2	6
10	10	2	6
12	6	3	6
12	10	3	6
14	6	2	6
14	10	2	6
16	6	2	6
16	10	2	6
16	15	2	6
18	6	2	6 u. 8
18	10	2	6 u. 8
18	15	2	6 u. 8
20	6	2	6 u. 8
20	10	2	6 u. 8
20	15	2	6 u. 8
22	6	2	6 u. 8
22	10	2	6 u. 8
22	15	2	6 u. 8
25	6	2	6 u. 8
25	10	2	6 u. 8
25	15	2	6 u. 8
30	6	2	8
30	10	2	8
30	15	2	8
35	6	2	8
35	10	2	8
35	15	2	8
40	10	2	8
40	15	2	8
40	20	2	8
50	10	2	8
50	15	2	8
50	20	2	8

other dimensions on request

**1A1W**


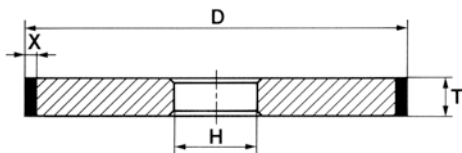
D	T	(K) X	(M) X	d	d <sub>1</sub>	L <sub>1</sub>	L
3	6	0.5	0.75	3	2.0	52	66
4	6	1.0	1.0	3	2.0	52	66
5	6	1.5	1.0	3	2.0	52	66
6	6	2.0	1.0	6	3.0	52	66
6	8	2.0	1.0	6	3.0	50	68
7	6	2.5	1.0	6	3.0	52	68
7	8	2.5	1.0	6	3.0	50	68
8	6	2.0	1.0	6	4.0	52	68
8	10	2.0	1.0	6	4.0	48	70
10	6	3.0	1.0	6	-	-	66
10	10	3.0	1.0	6	-	-	70
12	6	2.0	1.0	6	-	-	66
12	12	2.0	1.0	6	-	-	72
14	6	3.0	1.0	6	-	-	66
15	6	3.5	1.0	6	-	-	66
15	12	3.5	1.0	6	-	-	75
16	6	3.0	1.0	6	-	-	66
18	6	4.0	1.0	6	-	-	66
20	6	5.0	1.0	6	-	-	66

(K) = bakelite bond / (M) = metal bond

Please state all dimensions of the respective grinding wheel when ordering.

## 1A1

D - T - X - H



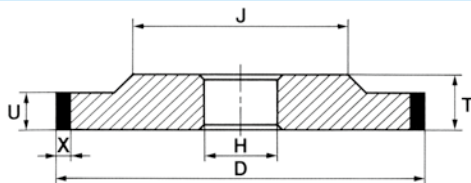
We manufacture diamond- and CBN-grinding wheels up to a diameter of 750 mm.

### Characteristics

- very good grinding ability
- long tool life
- high material removal rate
- low grinding pressure
- low heat evolution

## 3A1

D - U - X - H - T - J



### Grinding process

pendular-, deep-, profile-, deep grinding

### Standard grain sizes (D/B)

46, 64, 91, 126, 151, 181

### Standard concentrations

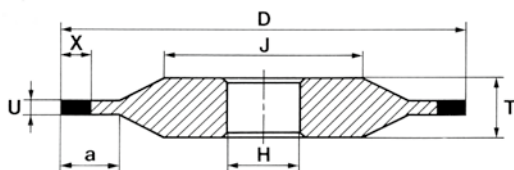
C50, C60, C75, C100, C125

### Standard wheel bodies

aluminium, steel, ceramic, bakelite, composite material

## 14A1

D - U - X - H - T - J - a



special shapes are possible

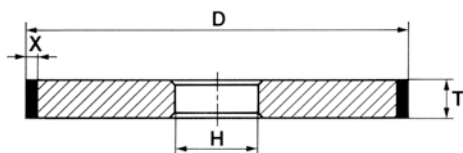


## DIAMOND LAPPING PASTES

Diamond lapping pastes from 5 µm to 15 µm. Concentration: low, medium, high. As oil soluble or water soluble paste.

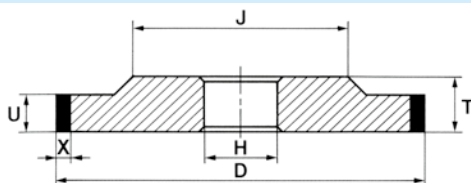
## 1A1

D - T - X - H



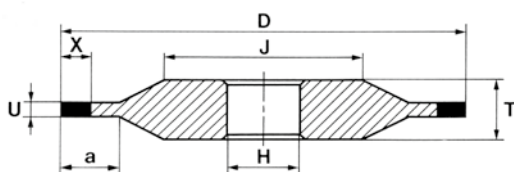
## 3A1

D - U - X - H - T - J



## 14A1

D - U - X - H - T - J - a



special shapes are possible

We manufacture diamond- and CBN-grinding wheels up to a diameter of 750 mm:

- coated rolls with chromium oxide, carbide, titanium oxide or tungsten carbide for the printing industry
- paper rollers
- printing rollers
- ceramic rollers
- silicon rollers
- rubber-coated rollers and rolls
- granite rollers
- foil rollers
- hardened steel rolls
- sprayed rollers and rolls

### Standard grain sizes (D/B)

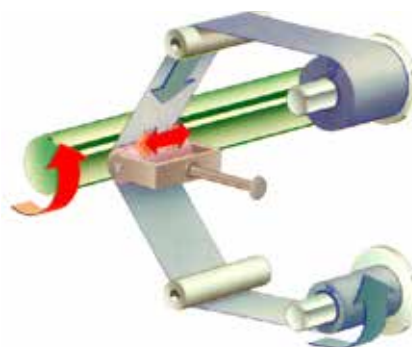
46, 64, 91, 126, 151 und 181

### Standard concentrations

C50, C75, C100, C125

These tools with our special bonds have been developed for rough up to fine grinding and for the further processing with lapping and finishing belts.

## ROLLER SUPERFINISHING



**Grain sizes:** 3, 6, 9, 15, 30, 45, 60, 80, 100

**Diamond films for lapping / finishing of:** ceramic, oxide ceramics, tungsten carbide, quartz, steatite, silicium sprayed materials (tungsten), fibre reinforced composites, crankshaft, camshaft, bearing and high hardness materials.

**Aluminium oxide films:** best suited for stainless steel and non-ferrous metals

**Silicon carbide films:** also suitable for rubber and plastics (also on non-ferrous metals)

## ELECTROPLATED BONDS

In opposite to other bonds, the diamond or CBN grains stand relatively far out from the abrasive coating. They give the electroplated tools a high grinding capacity and high stock removal rate. When processing wear-resistant and short-chipping materials, the constant grinding performance is not given due to the missing self-sharpening effect with single-layer grinding coatings. In addition to carbide grinding, electroplated bonded diamond tools are ideally suited for processing green (pre-sintered) carbides, duroplastics, GRP materials, graphite, electric carbon, ferrites, ceramic materials, hollow glass and laboratory glass.

CBN tools in electroplated bond are preferably used for grinding bores on internal and jig grinders. The tools are used for hardened steels from 58-65 HRC, but especially for high-alloy tool and high-speed steels. Special shapes and profile tools can be produced in this bond at short notice. The required bodies for this are supplied by us according to drawings or by the customer himself.

Used Diamond and CBN tools can be recoated with a new electroplated abrasive coating.

## NOTES FOR USE

With **electroplated Diamond** pins and rollers, **internal grinding** of tungsten carbide can be performed cool, fast and geometrically perfect with high dimensional accuracy.

With **electroplated CBN** pins and rollers, **internal grinding** of hardened and HSS steels can be performed cool, fast and geometrically perfect with high dimensional accuracy.

To use the electroplated grinding tool correctly, the following two points must be considered:

- the thickness of the coating is low and depends on the grain size
- the individual grains clearly emerge from the bond

For this reason, the machine and its storage must be in perfect condition, as lateral or height impact can destroy the tool.

The working speed should be between 25 m/s and 30 m/s.

grit sizes:	DIA / CBN		
rough grinding	151	181	251
finish grinding	107	126	
fine grinding	76	91	

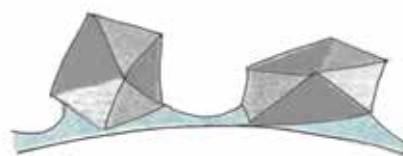
## VACUUM BRAZED

### Characteristics

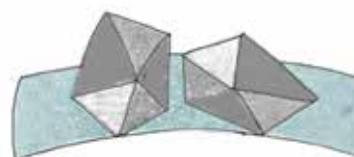
(compared to the electroplated bond):

- high grinding performance
- long tool life
- cool grinding performance
- high stock removal rate (short grinding time)
- low grinding pressure and low heat development
- constant distance between grains
- grinding wheels up to 600 mm diameter

bond	grain protrusion	grain distance
vacuum	70 - 75 %	more than electroplated
electroplated	30 - 40 %	narrow



vacuum brazed

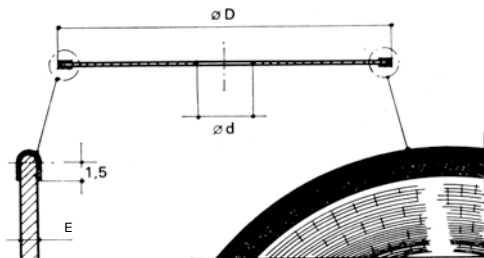


electroplated

## ELECTROPLATED TOOLS

## DP

## CONTINUOUS RIM



**Typ DP** for low cutting depth  
max. 8 - 10 mm

**core:** hardened steel

**application:**

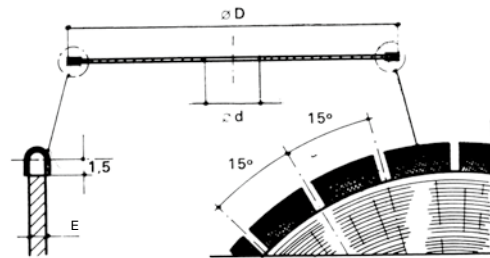
GRP, CFRP duroplastics, fibreglass,  
rubber (hard and soft)...

$\varnothing D$ [mm]	$E$ [mm]	T [mm] diamond grit sizes		
		D 181	D 252	D 427
50	0,4	0.9	1.1	1.6
65	0.4	0.9	1.1	1.6
75	0.5	1.0	1.2	1.7
100	0.6	1.1	1.3	1.8
125	0.8	1.3	1.5	2.0
150	1.0	1.5	1.7	2.2
175	1.2	1.7	1.9	2.4
200	1.2	1.7	1.9	2.4
250	1.6	2.1	2.3	2.8
300	2.0	–	2.7	3.2
350	2.5	–	3.2	3.7
400	2.5	–	3.2	3.7
500	3.0	–	3.7	4.2
600	3.0	–	3.7	4.2
700	3.5	–	4.2	4.7

Please specify bore  $\varnothing d$  mm

## DPC

## SEGMENTED



**Typ DPC** segmented for larger  
cutting depth

**core:** hardened steel

**application:**

CFRP, duroplastics, fibreglass,  
brake and clutch linings, ceramic materials,  
marble, soft stone...

$\varnothing D$ [mm]	$E$ [mm]	T [mm] diamond grit sizes		
		D 181	D 252	D 427
200	1.2	1.9	2.4	3.0
250	1.6	2.3	2.8	3.4
300	1.8	2.5	3.0	3.6
350	2.2	2.9	3.4	4.0
400	2.5	3.2	3.7	4.3
500	3.2	3.9	4.4	5.0
600	3.5	4.2	4.7	5.3
700	4.0	4.7	5.2	5.8
800	4.5	5.2	5.7	6.3

Please specify bore  $\varnothing d$  mm

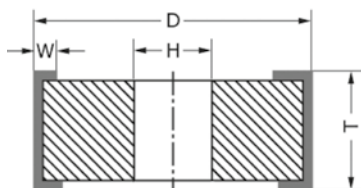
The cutting speed should be between 12 - 25 m/s.  
Other core thicknesses (E) are available on  
request.



## DIAMOND- OR CBN-ROLLS AND PINS WITH ELECTROPLATED BOND WITH STEEL- OR TUNGSTEN-CARBIDE-SHANK

### grinding rolls

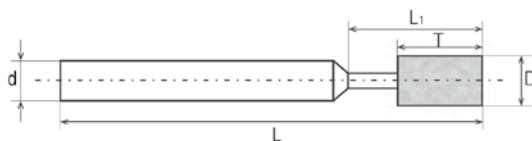
Diamond: Typ MA  
CBN: Typ MNBA



D x T [mm]	W [mm]	H [mm]
10 x 10	1	6
12 x 10	1	6
14 x 10	1	6
15 x 10	1.5	6 / 8
18 x 10	1.5	6 / 8
20 x 10	1.5	6 / 8
20 x 15	1.5	6 / 8
25 x 10	1.5	6 / 8
25 x 15	1.5	6 / 8
30 x 10	2	6 / 8 / 13
30 x 15	2	6 / 8 / 13
40 x 10	2	8 / 20
40 x 15	2	8 / 20
50 x 10	2	8 / 20
50 x 15	2	8 / 20

### grinding pins

Diamond: Typ MQ  
CBN: Typ MNBQ



D x T [mm]	d x L [mm]
0.4 x 2	3 x 40
0.5 x 2	
0.6 x 3	
0.7 x 3	
0.8 x 3	
0.9 x 3	3 x 40
1.0 x 3	
1.2 x 3	
1.5 x 4	
1.8 x 4	
2.0 x 4	3 x 40
2.5 x 4	
3.0 x 5	
3.5 x 5	
4.0 x 5	
4.5 x 5	6 x 60
5.0 x 5	
10.0 x 10	6 x 90
	8 x 110
12.0 x 10	10 x 110
14.0 x 10	
15.0 x 10	
16.0 x 10	
18.0 x 10	
18.0 x 10	
20.0 x 10	

## DIAMOND- OR CBN-TOOLS IN VITRIFIED- AND BAKELITE-BOND



### Standard shapes

1A1, 1F1, 1A8, 1A1W, 1A8W

(special shapes available on request)

### Grinding processes

- simultaneous grinding of several different bores
- internal cylindrical grinding and surface grinding (combination tools)
- non-circular or polygon grinding
- coordinate grinding
- longitudinal grinding
- plunge grinding

### Short grinding time with long tool life

### Features

- high profile retention (wear resistant)
- high time span volume (short grinding time)
- low grinding pressure and low heat generation

The contact surface between the grinding wheel and the workpiece is considerably larger during internal circular grinding than during comparable external circular and surface grinding operations, therefore the forces and temperatures occurring are considerably higher. In addition, this grinding process is made more difficult by limited chip removal and poorer provision with cooling lubricant in the contact zone.

For this reason, Bärhausen company has developed a new type of ceramic-bonded high-performance grinding wheel to overcome the existing technical limitations in internal cylindrical grinding.

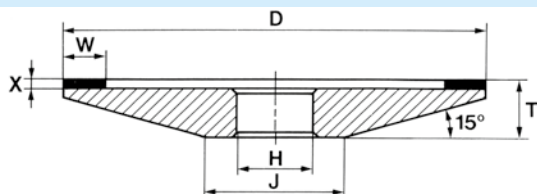
The newly developed binding system enables the reduction of the binding proportion and at the same time the absorption of cooling lubricant.



## FACE GRINDING WHEEL FOR HARD METAL TIPPED SAWS

### D4A2 – 15°

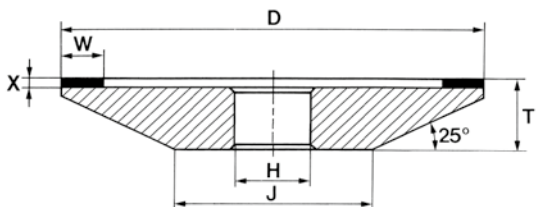
FOR CLOSE TOOTH PITCH



D	W	X	H	Grain	Conc.
100	3 5	1	•	D54 D64	C50 C75 C100

### D4A2 – 25°

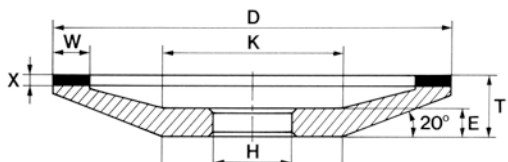
FOR NORMAL TOOTH PITCH



D	W	X	H	Grain	Conc.
100 125	5	3 2	•	D54 D64 D126	C50 C75 C100

### D12A2 – 20°

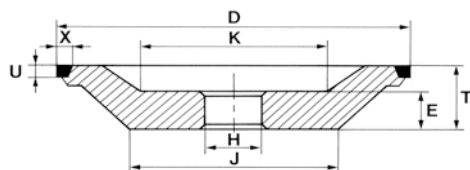
FOR NORMAL TOOTH PITCH



D	W	X	H	Grain	Conc.
125	5	4	•	D64 D126	C50 C75

### D12B9 – 30°

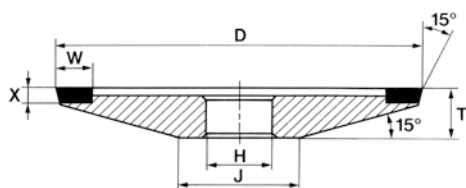
FOR NORMAL TOOTH PITCH



D	U	X	H	Grain	Conc.
125	3	1.8	•	D54	C75

### D4B9 – 15°

FOR CLOSE TOOTH PITCH

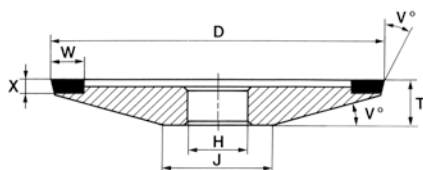


D	W	X	H	Grain	Conc.
100 125 150	2.5 3	1.2 1.8	•	D46 D54 D64	C50 C75 C100 C125

Please specify bore ø H mm

## D4B9

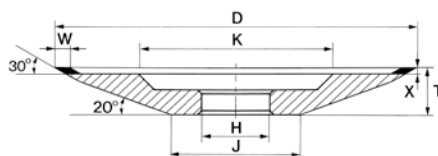
FOR NORMAL ANS LARGE TOOTH PITCH



D	W	X	H	Grain	Conc.
125	3	3.8	•	D54	C75
150					C100

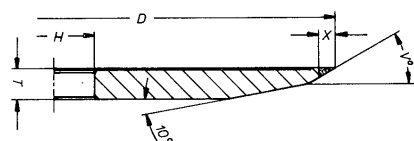
## D12V2 – 30°/20°

FOR CLOSE TOOTH PITCH



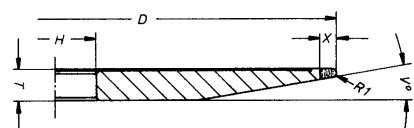
D	W	X	H	Grain	Conc.
100				D46	C75
125				D54	C100
150	4	2	•	D64	C125
175				D76	
200					

## D3E1/21



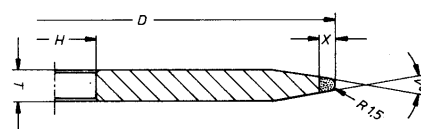
D	X	T	V°	H	Grain	Conc.
125	4	8	30°	•	D54	C75
150					D64	C100
					D76	

## D3F1/22



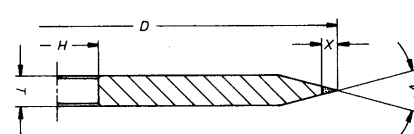
D	X	T	V°	H	Grain	Conc.
125	4	8	10°	•	D54	C75
150					D64	C100
					D76	

## D14F1/23



D	X	T	V°	H	Grain	Conc.
125	4	8	20°	•	D54	C75
150					D64	C100
					D76	

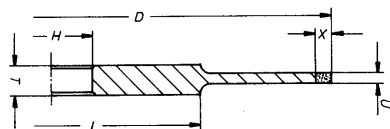
## D14E1/24



D	X	T	V°	H	Grain	Conc.
125	4	8	30°	•	D54	C75
150					D64	C100
					D76	

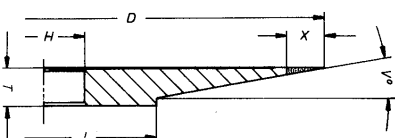
Please specify bore ø H mm

## D14A1/25



D	X	T	U	J	H	Grain	Conc.
125 150	4	8	3	80	•	D54 D64 D76	C75 C100

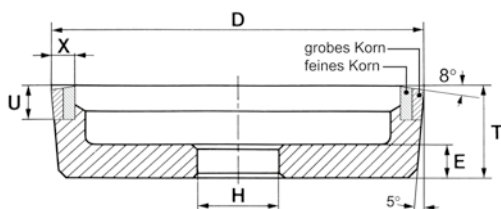
## D14E1/26



D	X	T	V°	J	H	Grain	Conc.
125 150	10	10	10°	60	•	D54 D64 D76	C75 C100

## CLEARANCE GRINDING WHEEL FOR CARBIDE TIPPED SAWS

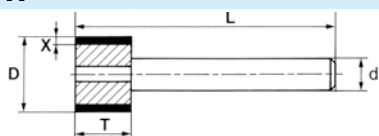
### D6A9



D	X	U	H	Grain	Conc.
100 125	6 10	5	•	D126/D46 D126/D30	C100/C75 C125/C100

## DIAMOND GRINDING PINS FOR HOLLOW-TOOTH SAWS

### D1A1W

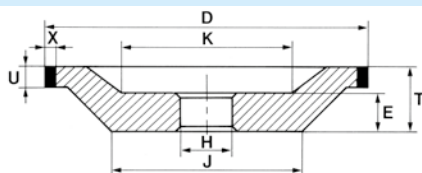


D	X	T	d	Grain	Conc.
6.5	1.75	3	6.0	D76 D91 D151	C125



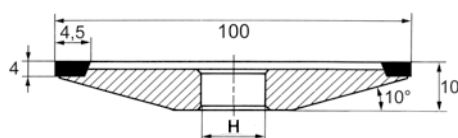
## FLANK GRINDING FOR CARBIDE TIPPED SAWS

### D12A1



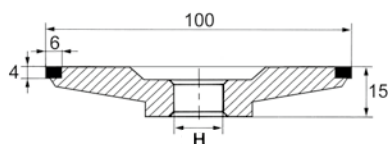
D	U	X	H	Grain	Conc.
100	4	4	•	D91 D126	C50 C75 C100

### D4B9



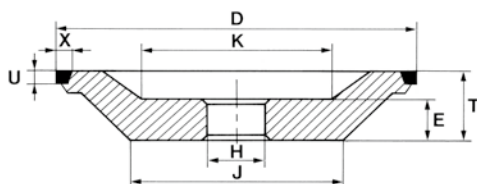
D	W	X	H	Grain	Conc.
100	4.5	4	•	D91 D126	C50 C75 C100

### D12A9



D	U	X	H	Grain	Conc.
100	4	6	•	D91 D126	C50 C75 C100

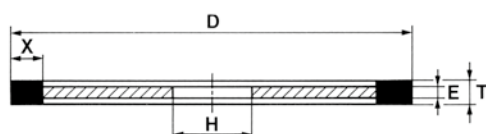
### D12B9



D	U	X	H	Grain	Conc.
76 100	4.5	4	•	D91 D126	C75 C100

## CUT-OFF GRINDING

### D1A1R

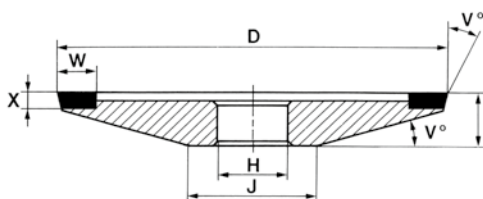


D	X	T	H	Grain	Conc.
100 125 150 175 200 250 300	0.6 0.8 1.0 1.2 1.5	7 10	•	D126 D151 D181	C75 C100

Please specify bore ø H mm

## FACE GRINDING FOR HSS SIDE MILLING CUTTERS

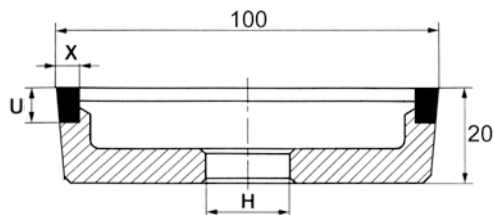
### B4B9



D	W	X	H	Grain	Conc.
100	3	1.8	•	B126	C75
125		3.0			C100
		3.8			C125

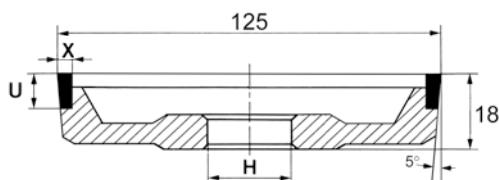
## CLEARANCE GRINDING FOR HSS SIDE MILLING CUTTERS

### B6A9



D	U	X	H	Grain	Conc.
100	6 10	3 5	•	B126	C75 C100

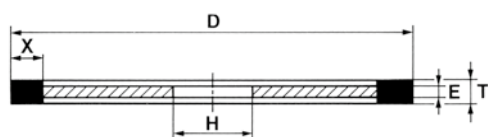
### B11B9



D	U	X	H	Grain	Conc.
125	6.5	3	•	B126	C75 C100

## CUT-OFF GRINDING

### B1A1R



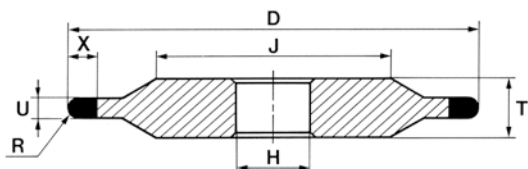
D	X	T	H	Grain	Conc.
100	0.6 0.8 1.0 1.2 1.5	7 10	•	B126 B151 B181	C75 C100
125					
150					
175					
200					
250					
300					

Please specify bore ø H mm

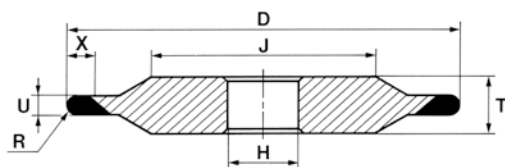
## TC SAW GRINDING / WET GRINDING

e.g. for machinery: Loroach, Schmidt-Tempo, Königsee-Rekord, Vollmer

### D14F1



### D14Q1

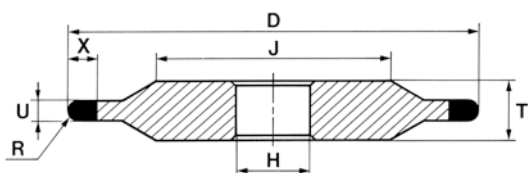


D	U	R	X	H	Grain	Conc.
150 200	1.0	0.50				
	1.3	0.65				
	1.6	0.80				
	2.0	1.00				
	2.5	1.25	6			
	3.0	1.50	8			
	3.5	1.75	12.5	•	D107	C75 C100
	4.0	2.00	15			
	5.0	2.50				
	6.0	3.00				
	7.0	3.50				
	8.0	4.00				

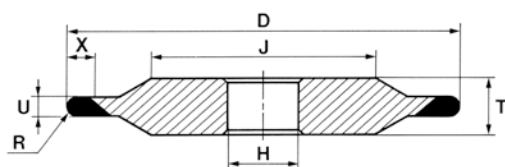
## HSS SAW GRINDING / WET GRINDING

e.g. for HSS saw blade, frame saw, log band saw

### B14F1



### B14Q1



D	U	R	X	H	Grain	Conc.
150 200	1.0	0.50				
	1.3	0.65				
	1.6	0.80				
	2.0	1.00				
	2.5	1.25	6			
	3.0	1.50	8			
	3.5	1.75	12.5	•	B107	C75 C100
	4.0	2.00	15			
	5.0	2.50				
	6.0	3.00				
	7.0	3.50				
	8.0	4.00				

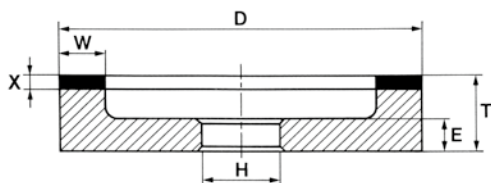
Please specify bore ø H mm

## TC CUTTER GRINDING

e.g. for machinery: Reform, Rabenseifner, Göckel

IN BAKELITE- AND METAL-BOND

### D6A2



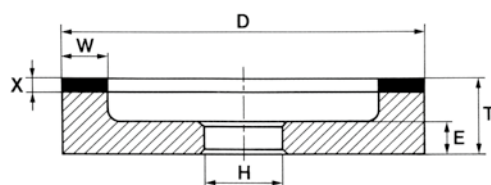
D	W	X	H	Grain	Conc.
200		2		D15	
250	6	4	•	D64	C75
300	8	6		D126	C100
		8			

## HSS CUTTER GRINDING

e.g. for machinery: Reform, Rabenseifner, Göckel

IN BAKELITE- AND METAL-BOND

### B6A2



D	W	X	H	Grain	Conc.
200		2		B64	C75
250	6	4	•	B126	C100
300	8	6			
		8			

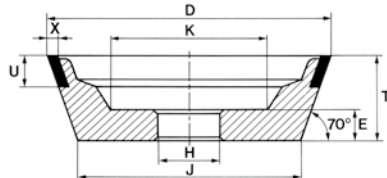


Please specify bore  $\varnothing$  H mm

## CARBIDE CUTTER - DRY GRINDING

### D11V9

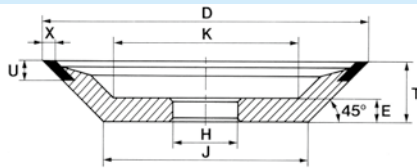
BAKELITE BOND



D	U	X	H	Grain	Conc.
75 100 125	10	2	•	D64 D126	C75

### D12V9

BAKELITE BOND

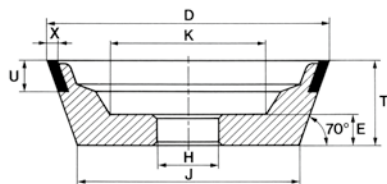


D	U	X	H	Grain	Conc.
75 100 125	10	2	•	D64 D126	C75

## CARBIDE CUTTER - WET GRINDING

### D11V9

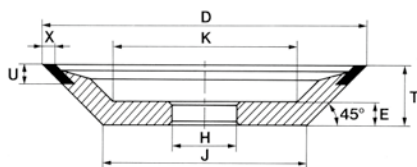
BAKELITE BOND



D	U	X	H	Grain	Conc.
75 100 125	10	2	•	D64 D76 D91 D107 D126	C100

### D12V9

BAKELITE BOND

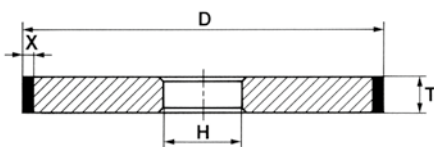


D	U	X	H	Grain	Conc.
75 100 125	10	2	•	D64 D76 D91 D107 D126	C100

## CARBIDE CUTTER - FLUTE GRINDING - WET GRINDING

### D1A1

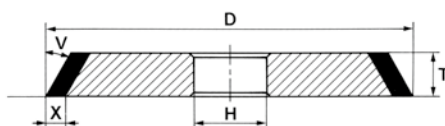
BAKELITE BOND



D	T	X	H	Grain	Conc.
100 125	8 10 12 15	5	•	D64 D76 D126	C100

### D1V1

BAKELITE BOND



D	T	X	V°	H	Grain	Conc.
100 125	8 10 12 15	5	nach Angabe	•	D64 D76 D126	C100

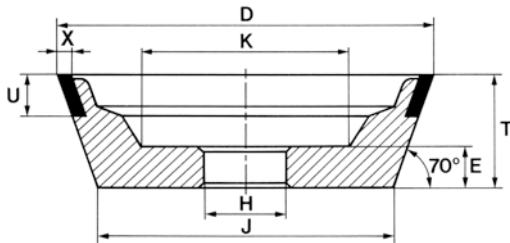
Please specify bore ø H mm



## D11V9

### CLEARANCE AND ENDFACE

HYBRID BOND

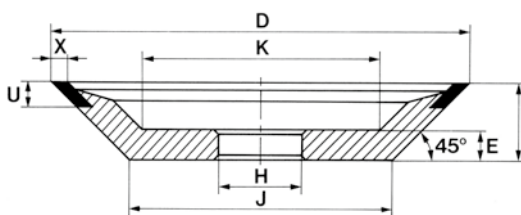


D	U	X	H	Grain
75	10	2	•	D46
100				D64
125				D126

## D12V9

### CLEARANCE, RELIEF AND ENDFACE

HYBRID BOND

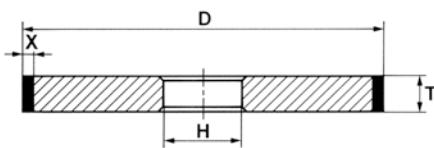


D	U	X	H	Grain
75	10	2	•	D46
100				D64
125				D126

## CARBIDE CUTTER - DRY GRINDING

## D1A1

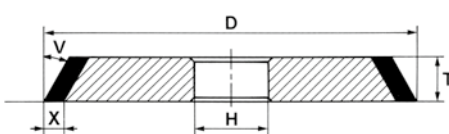
HYBRID BOND



D	T	X	H	Grain
75	8	5	•	D46
100	10			D64
125	12			D76
150	15			D126

## D1V1

HYBRID BOND



D	T	X	V°	H	Grain
75	8	5	by specification	•	D46
100	10				D64
125	12				D76
150	15				D126



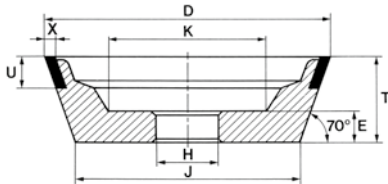
Please specify bore ø H mm

## DRY GRINDING - KOBRA

### B11V9

#### CLEARANCE AND ENDFACE

BAKELITE BOND

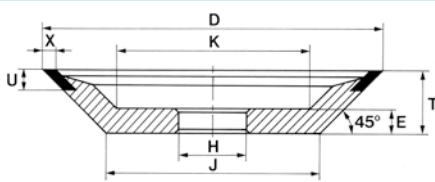


D	U	X	H	Grain
75				B91
100	10	2	•	B126
125				B151

### B12V9

#### CLEARANCE, RELIEF AND ENDFACE

BAKELITE BOND



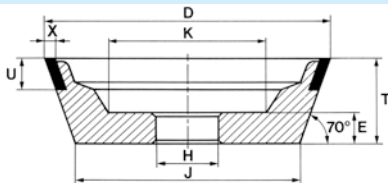
D	U	X	H	Grain
75				B91
100	10	2	•	B126
125				B151

## WET GRINDING

### B11V9

#### CLEARANCE AND ENDFACE

BAKELITE BOND

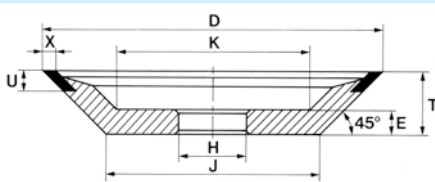


D	U	X	H	Grain
75				B91
100	10	2	•	B126
125				B151

### B12V9

#### CLEARANCE, RELIEF AND ENDFACE

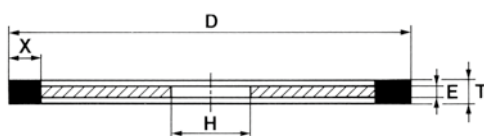
BAKELITE BOND



D	U	X	H	Grain
75				B91
100	10	2	•	B126
125				B151

## CUT-OFF GRINDING

### B1A1R



D	X	T	H	Grain	Conc.
100					
125	0.6				
150	0.8	7	•	B126	C75
175	1.0	10		B151	C100
200	1.2			B181	
250	1.5				
300					

Please specify bore ø H mm

## HONING BRUSHES FOR A PERFECT FINISHING

Honing brushes are very versatile due to their high quality technical processing and performance. The processed abrasive balls are attached to special nylon brushes. Due to this compact production the brushes are very flexible and adaptable.

The flexible honing process does not change the bore of the cylinder, but the surface is merely restructured so that optimum oil adhesion is once again possible, e.g. in cylinders.

Simple, perfect technology that effectively simplifies or optimises work processes with little effort.

### Product features

- removes the burr on all common materials
- no change in dimensional accuracy
- low material removal (in the  $\mu$ -range)
- perfect use in hydraulic and pneumatics area

Honing brushes can be used on different machine systems, or due to their self-centering, also on hand drills. The brushes are rotatably guided through the cylinder. A commercially available honing oil should be used for machining in order to reduce the wear of the honing brushes and to improve chip removal.

A honing brush is the most ideal tool for introducing or refreshing a cross-grinding. To obtain a cross-grinding at the desired angle, simply adjust the stroke accordingly.

### Fields of application:

- honing of cylinders with bores  
e.g. to smooth the wear edges of hydraulic and pneumatic cylinders
- reworking in galvanic and other coating processes
- deburring and rounding of edges  
e.g. with split cylinders, or cross bores
- cleaning and polishing



## PKD- & PCBN TURNING TOOLS

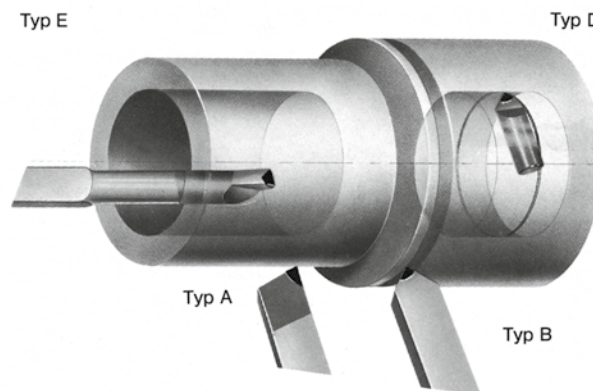
### Fields of application of PKD-Tools:

all metals and their alloys, such as aluminium, titanium, pre-metallized carbide, plastics or composites reinforced with GRP and CFRP, duroplastics and hard rubber.

### Not suitable for FE-metals!

### Fields of application of PCBN-Tools:

For turning hardened steels 55-65 HRC, stellites, sprayed materials, As well as for HSS- and SS-steels with boron nitride plates.








### NITRIBACCT-SUPER

consists of a sintered polycrystalline composite mass of CBN. NITRIBACT and carbide turning tools can be easily resharpened by hand with a diamond wheel type D6A2 D46 C50 resin bond in dry and wet grinding.

**We also equip and regrind all standard wall plates and lathe tool holders with PKD & PCBN.**

## DIAMOND - NEEDLE FILES

length			100	125	125	150	150	200	special shape (S)
diamond coated length			60	80	80	80	80	120	
type	profile	shape	dimensions						
S 2112		rectangular	2 x 1	3.5 x 1.8	–	4.5 x 2	9 x 3.2	11 x 3.8	10 x 3.5
S 2132		triangular	2	3.5	4.5	4.5	8	10	10
S 2142		square	2	3.2	5	4	8	10	6
S 2152		semicircular	2 x 1	3.2 x 1.6	5 x 2.5	4 x 2	8 x 4	10 x 5	12.5 x 3.5
S 2162		round	2	3.2	5	–	6.3	10	6.5

all dimensions in mm

## SINGLE POINT DRESSERS



### Diamond Qualities

363 - cut edges  
453 - natural edges

### Diamond sizes (carat)

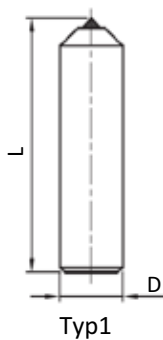
0.25 ; 0.33 ; 0.5 ; 0.75 ; 1.0 ; 1.5 ; 2.0 ...

### shaft shape

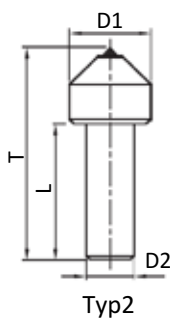
We deliver all forms

### infeed

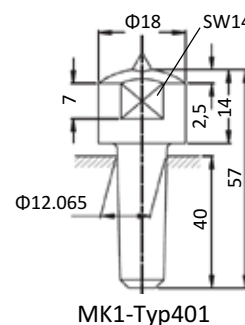
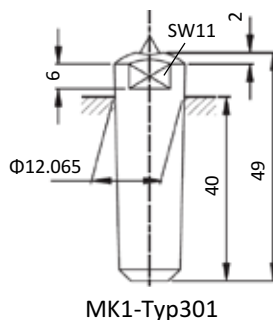
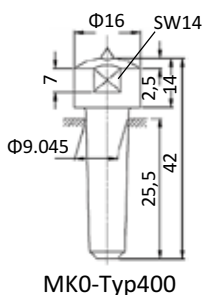
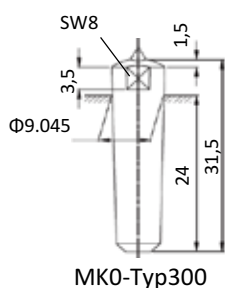
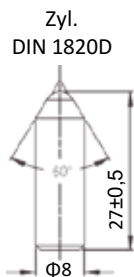
fine grinding approx. 0.01 mm  
rough grinding 0.02-0.03 mm



Typ 1 Standard	
D	12
L	90



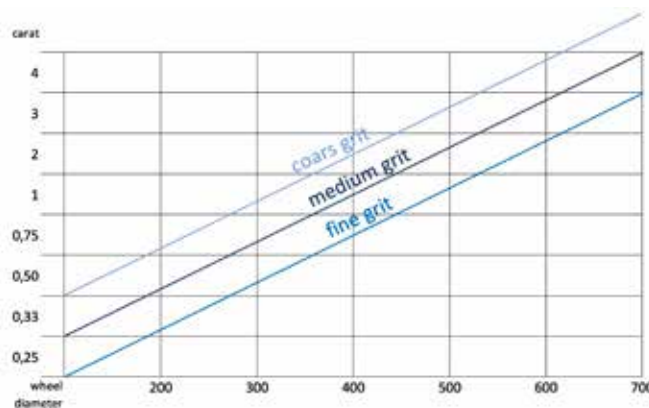
Typ 2 Standard	
D1	12
D2	8
L	25
T	42



\*The tilt angle of the single point dresser should be radial 10° to 15°

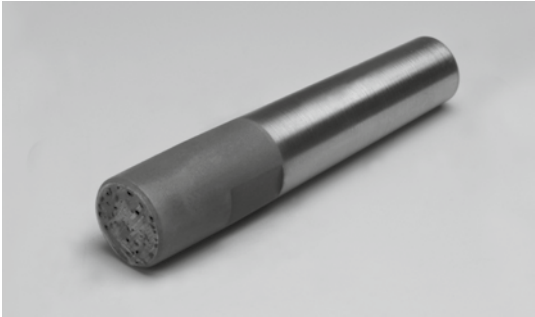
### grit sizes of vitrified wheels

coars	6	8	10	12	14	16	20	24
medium	30	36	46	54	60			
fine	70	80	90	100	120	150	180	
very fine	220	240	280	320	400	500	600	





## MULTI GRAIN DRESSEER



**BD line:** dresser with a sintered diamond insert.

**Suitable for the following grinding wheel diameters:**

- BD 110** up to 200 x 20 mm
- BD 120** 250 x 20 up to 400 x 40 mm
- BD 130** 450 x 40 up to 600 x 80 mm
- BD 140** 600 x 60 and higher

**position of the diamond:**

- 01** = straight
- 02** = 15° cranked

**suitable for grinding wheel grain-sizes:**

- A** = grain 16 - 36
- C** = grain 46 - 60
- E** = grain 80 - 180
- F** = grain 220 and finer

**bondsystem:**

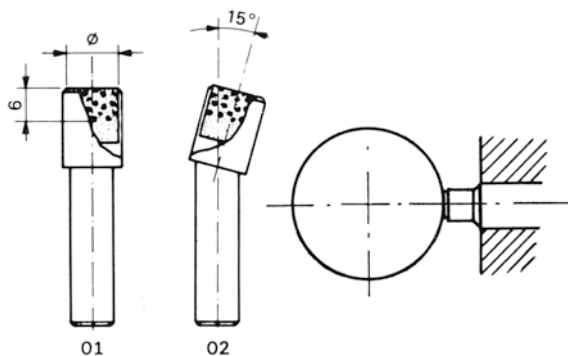
- B1** = very hard for SIC-wheels
- B6** = standard for korundum wheels

**dressing infeed:**

- fine grinding: = ca. 0.01 mm
- rough grinding: = ca. 0.03 mm

**order example:**

BD 120 - 01 - E - B6 - shank 10 x 40mm



These dressers are available as machine dressers straight and with morse cone and as manual dressers.

## SMALL DRESSER WHEEL - R1800



**Diamonds:**

- 3 carats = 4 needle diamonds per row
- 5 carats = 5 needle diamonds per row

**max. infeed:**

0.25 mm

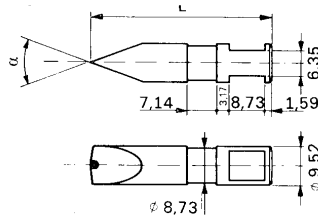
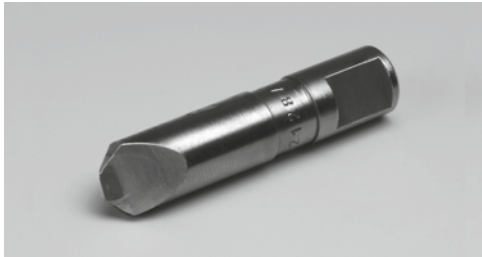
**Main application:** Cylindrical grinding machines with wheel diameter 400 - 800 mm and a wheel width up to 120 mm

**R series:**

On the dressing wheel there are (diagonally arranged over a width of 10 mm) 20 rows of 4/5 needle diamonds each. On both plan sides of the dressing wheel, 10 ball cups are milled into each of the two faces of the dressing wheel to lock it in place, into which a pin on the shaft holder can engage.

The fixing is carried out with an Allen screw. When a row of needle diamonds (4/5 pieces) has been used up, loosen the Allen screw and turn the dressing wheel until the pin engages in the next calotte and tighten the Allen screw again. Now the tool is at its maximum performance again.

## PROFILE DRESSER - DIAFORM

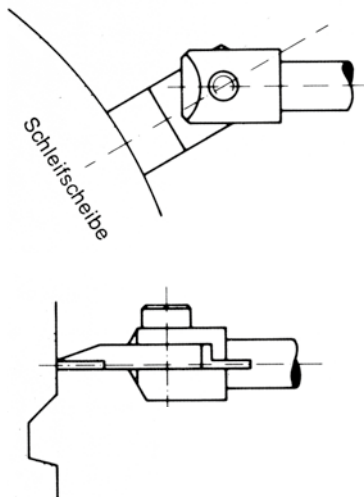
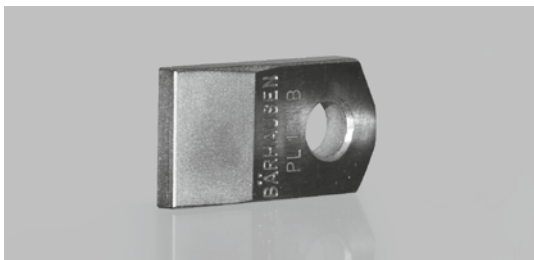


angle and radius as specified

$\alpha$	40°	60°
R	0.125	0.125
	0.254	0.254
	-	0.508
	-	0.750
L	35 or 44.5	

Diamond: 0.33 / 0.50 / 0.75 ct

## DRESSING PLATES PL AND NEDLE DRESSING PLATES



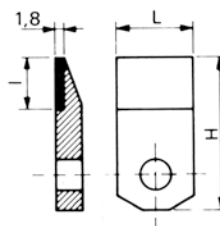
### PL series:

This dresser is mainly suitable for cylindrical dressing of the circumference of grinding wheels and for cylindrical profiles.

### application:

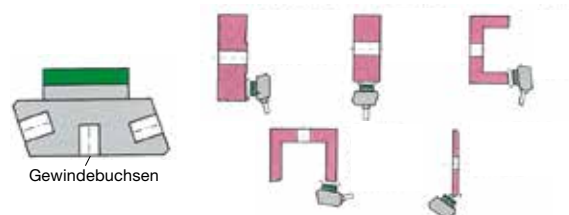
This dresser must be used on edge and must be perpendicular to the axis of the grinding wheel.

Infeed: 0.02 - 0.04 mm

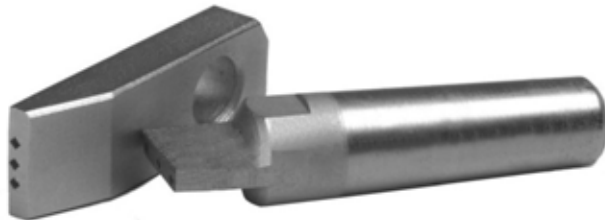


Typ	L	I	H
PL 105 B	10	10	30
PL 155 B	15	10	30
PL 205 B	20	10	30
PL 207 B	20	15	30

## DIAMOND HANDDRESSER - TYP 123



## MKD AND CVD DRESSING PLATES



MKD



CVD

### Cue:

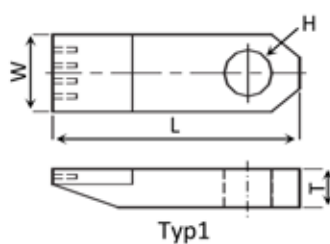
0.8 x 0.8 mm: for grain 80 - 60 and coarser

0.6 x 0.6 mm: for grain 80 - 100 and finer

### Advantages:

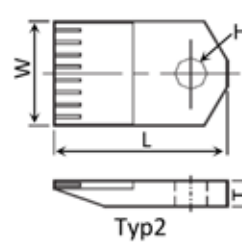
- Always constant cross-section of the contact zone
- Reproducible dressing behaviour
- Narrow tolerances
- High heat resistance
- Longer dressing intervals: Increase in production
- Very long tool life
- Constant surface quality
- Increased profitability

wheel. diameter	wheel width	diamond rods
bis 300 mm	up to 100 mm	2
bis 300 mm	100 - 200 mm	3
300 - 500 mm	up to 100 mm	2
300 - 500 mm	100 - 200 mm	3
300 - 500 mm	200 - 400 mm	4
500 - 750 mm	up to 50 mm	3
500 - 750 mm	50 - 100 mm	4
500 - 750 mm	from 100 mm	5
750 - 1250 mm	up to 100 mm	4
750 - 1250 mm	from 100 mm	5



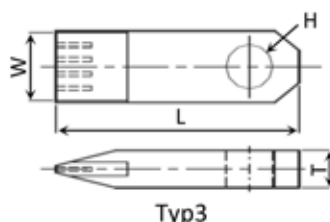
Typ1

Typ 1 Standard	
L	28
W	10
T	5
H	6.1



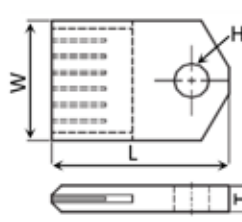
Typ2

Typ 2 Standard	
L	33
W	20
T	5
H	6.1



Typ3

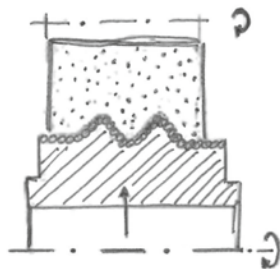
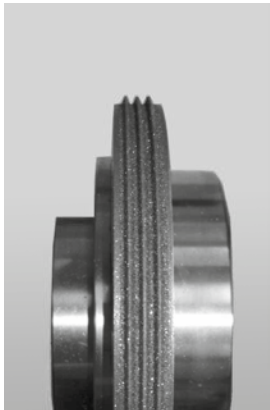
Typ 3 Standard	
L	28
W	10
T	5
H	6.1



Typ4

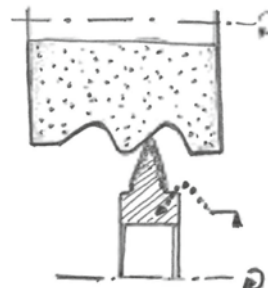
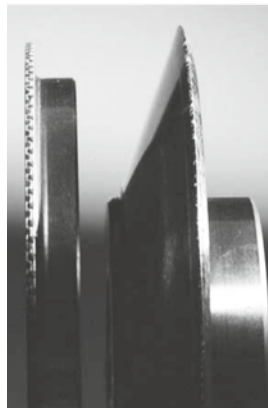
Typ 4 Standard	
L	33
W	20
T	5
H	6.1

## DIAMOND PROFILE ROLLS



The profile-roll aligns the entire profile to the grinding wheel in a plunge-cut process. These profile rollers are mainly used in the work areas of series production, as the short dressing time and the long service life lead to a high and efficient series production.

## DIAMOND FORM ROLLS



The forming-roll aligns the grinding wheel with any profile using a CNC control. These forming rollers can be used in all areas of grinding technology, from the smallest series to medium series production. With this method, changes in the grinding wheel shape can also be implemented quickly.  
All types of shaping rollers are available.

## DRESSING MACHINE BA-100

We designed this machine for dressing resin bonded diamond and CBN grinding wheels. The pneumatic drive and the automatic centrifugal brake ensure economical working.  
The BA-100 is used for dressing on cylindrical, surface and tool grinding machines.



## DRESSING MACHINE BAS-500

We designed this machine for dressing metal, ceramic and resin bonded diamond and CBN grinding wheels as well as conventional grinding wheels. The electric drive and the optional control offer all possibilities of rotary dressing.

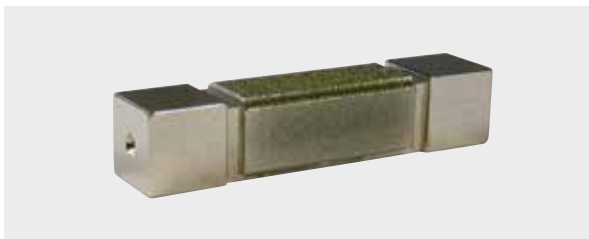


## VITRIFIED DRESSING WHEEL Ø 150 x 25 x 20 mm



D/B grit size	dressing wheel
up to D/B 181	SIC 80
from D/B 181 to D/B 76	SIC 150
D/B 76 and finer	SIC 320

## DIAMOND-DRESSING-BAR



For dressing CBN resin bonded wheels in surface grinding.

length: 120 mm (coating: 60x25mm)

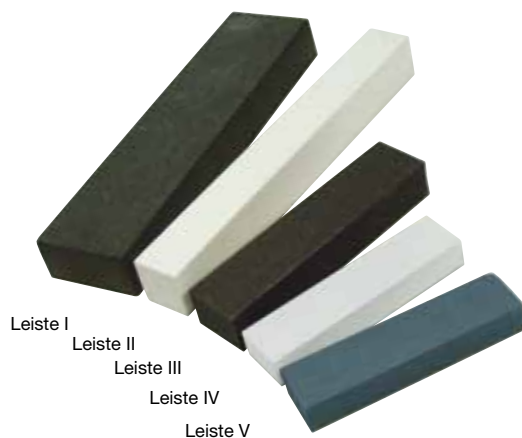
## DIAMOND-DRESSING-ROLL



For dressing CBN resin bonded wheels in cylindrical grinding.

length: 150 mm; Ø 30 mm

## SHARPENING BARS



Leiste I	<b>200 x 50 x 25 mm</b> 1C 120 L6 B
Leiste II	<b>200 x 25 x 25 mm</b> 22A 320 H8 V16C
Leiste III	<b>125 x 20 x 30 mm</b> 90C 320 H8 V16L
Leiste IV	<b>100 x 15 x 25 mm</b> 22A 320 H8 V16L
Leiste V	<b>100 x 15 x 25 mm</b> 90C 320 H8 V16L

## GRINDING WHEEL MOUNTINGS

Bärhausen grinding wheel holders and accessories for CNC tool grinding machines



**Anca**  
**Deckel**  
**Haas**  
**Reinecker**  
**Saacke**  
**Schneeberger**  
**Schütte**  
**Strausak**  
**Walter**  
**etc.**



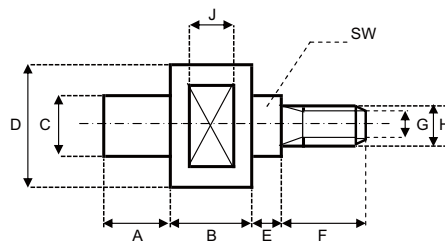
## GRINDING WHEEL FLANGES



We supply grinding wheel flanges and grinding mandrels for all common machines.

The narrow manufacturing tolerances allow the use of CBN or diamond wheels.

## TAPPING BOLTS



Typ	A	B	C	D	E	F	G	H	J	SW
GB 3.5	5	3.5	2	3.5	2	4.5	M2.2	2.4	2.5	3
GB 4	5.5	4	2.5	4	2.5	5	M2.5	2.7	2.5	3
GB 5	6.5	4.5	3	5	3	6	M3	3.2	3	4
GB 7	8	5.5	4	7	3.5	7	M4	4.2	4	5.5
GB 9	10	6.5	6	9	4	8.5	M5	5.2	4.5	7
GB 12	12	7	8	12	5	10	M6	6.2	5	9
GB 16	16	8	10	16	6	12	M8	8.5	6	13
GB 20	20	9	13	20	7	14	M10	10.5	6.5	17
GB 25	24	12	16	25	8	16	M12	12.5	9	21
GB 32	28	13	20	32	9	18	M14	15	10	27
GB 40	32	15	25	40	10	20	M16	17	12	32



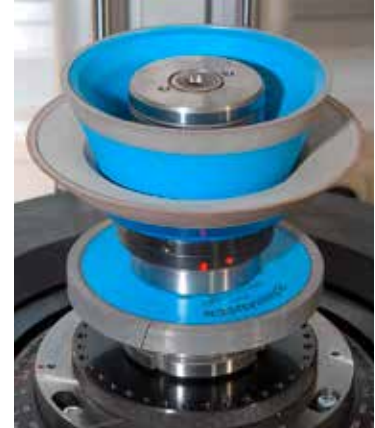
## BALANCING ON TOOL GRINDING MACHINES

### Why balancing?

- Quality improvement to the tool surface
- Avoidance of bearing damage due to unbalance with large masses
- Significant increase in grinding wheel service life
- Optimization of process safety
- Significant reduction of grinding time by increasing the axis feed rates
- Avoidance of hairline cracks in the workpiece
- Reduction of the reject rate

### Example:

Set of grinding wheels with balancing rings in the balancing station



Mobile balancing electronics for balancing directly on the grinding machine.



Balancing station for stationary balancing of grinding wheels (-sets) with the holding fixture, e.g. short taper or HSK 50.



vitrified grinding wheels



diamond tools  
for stone industry



flexible  
abrasives



**BÄRHAUSEN GmbH & Co. KG**

Your partner in professional grinding technology

Rimloser Straße 67  
Tel. +49 (0) 66 41/185-0  
[www.baerhausen.de](http://www.baerhausen.de)

36341 Lauterbach  
Fax +49 (0) 66 41/185 50  
[info@baerhausen.de](mailto:info@baerhausen.de)

GB-0820