



INNOVATOR IN TECHNOLOGY

DIAMOND DRESSERS

Single-point, forming-point, multi-point and impregnated diamond dressers for conventional abrasive wheels. Materials, selection guidance and complete dimension tables.

SDD

FDD

MDD

IDD

Special tools



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WHICH DRESSER FOR WHICH TASK

APPLICATION	DIAMOND DRESSERS
Straight type conventional abrasive wheels. Simple profile, thread and gear grinding abrasive wheels.	SDD, IDD
Straight type and conventional abrasive profile wheels. Dressing of complex forms and profiles with precision.	FDD, MDD
Larger and wider conventional abrasive wheels. Conventional surface and centre-less abrasive wheels.	MDD, IDD
Complex forms and profiles.	PCD dressers

HOW THE TYPE CODE IS BUILT

SDD – A 01

- SDD → Dresser type
- A → Diamond material
- 01 → Shank type

SYNTHETIC DIAMONDS



F — Mono crystal

Almost same property as natural diamond.
Applications: SDD, FDD



G — CVD

Chemical vapour deposition.
Applications: SDD, FDD, MDD



C — PCD

Poly-crystalline diamond.
Applications: PCD dresser

NATURAL DIAMONDS



A — Octahedron

Point angle 90°.
Applications: SDD, natural diamond MDD



B — Dodecahedron

Point angle 120°.
Applications: SDD, natural diamond MDD



C — Elongated

Oblong shape.
Applications: FDD cone type



D — Maccle

Triangle shape.
Applications: FDD chisel type



E — Shape

Round, flat shape.
Applications: FDD chisel type

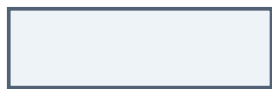
READING THE CODE

The letter in the type code names the diamond material: **A, B, C, D, E** for natural, **F, G** for synthetic and **C** for PCD in PCD dressers.

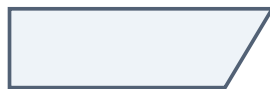
Comparison chart by material

PROPERTY	NATURAL DIAMOND	MONO CRYSTAL	CVD DIAMOND	PCD	WC (K10)
Thermal conductivity (W/mK)	2000	2000	1000	560	110
Hardness (GPa)	50~100	50~100	80~100	50	18
Toughness (MPa·m ^{1/2})	3.4	3.4	5~6	8~9	10.5
Tensile strength (GPa)	1000~3000	1000~3000	400~800	1260	–
Compressive strength (GPa)	9	9	16	7.6	6.1
TRS (GPa)	2.9	2.9	1.3	1.2	2.4

RECOMMENDED DRESSER BY WHEEL SHAPE



Straight
SDD, MDD, IDD



Tapered
SDD, MDD, IDD



Convex
SDD, FDD, MDD



Concave
FDD, MDD



Angled
FDD, MDD



Multi-angled
FDD, MDD

SDD

Single-point diamond dresser

Single-point diamond dressers are versatile and economical to dress straight type conventional abrasive wheels. Customers can choose diamond carat and materials dependent upon working conditions such as wheel size, wheel width and depth of cut.

NATURAL

Available diamond

A (Octahedron), B
(Dodecahedron)

Available carat

max 1 ct ~ min 1/30 ct

SYNTHETIC

Available diamond

F (Mono crystal), G (CVD)

Available size

0.6 × 0.6 × 3 mm · 0.8 × 0.8 × 3
mm
1.0 × 1.0 × 3 mm · 1.5 × 1.5 × 3
mm

RECOMMENDED DEPTH OF CUT

WHEEL GRIT	DEPTH OF CUT
20~60	0.025 ~ 0.05 mm
80~140	0.015 ~ 0.025 mm
160~200	0.01 ~ 0.015 mm

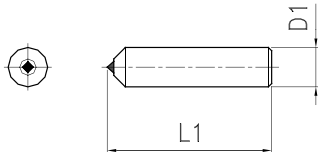
RECOMMENDED DIAMOND CARAT

WHEEL Ø (MM)	CARAT
100~150	1/7 ct
175~250	1/5 ct
300~350	1/4 ct
350~400	1/3 ct
400~500	1/2 ct
500~600	3/4 ct
600 and above	1 ct

SDD — Specifications

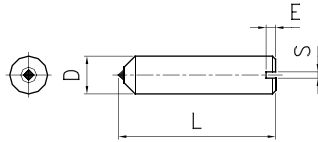
All dimensions in mm, angles in degrees

SDD-A01



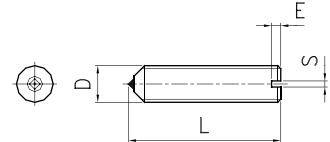
D1	L1
12	90

SDD-A02



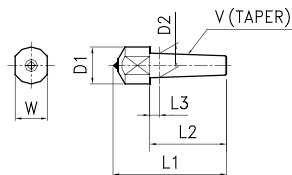
L	D	S	E
50	10	1.5	2

SDD-A03



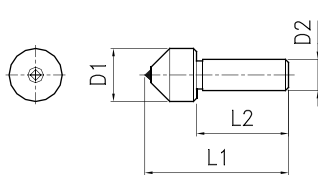
Pitch	L	S	E
M8×1.0	16	1.0	2

SDD-A09



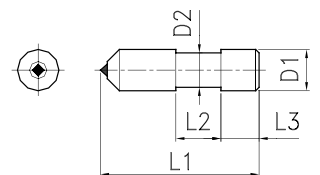
D1	L1	L2	D2	V
18	60	42	12	MT1

SDD-A10



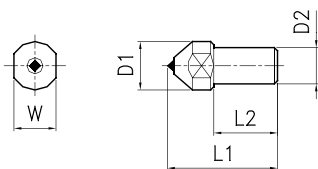
D1	D2	L1	L2
12	8	42	25

SDD-A12



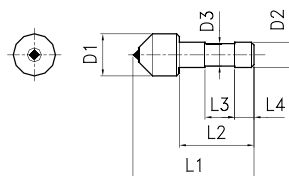
D1	D2	L1	L2	L3
10	8	43	22	8

SDD-A13



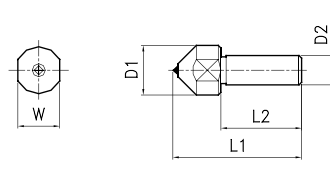
D1	D2	L1	L2	W
16	11	37	22	14

SDD-A14



D1	D2	D3	L1	L2	L3
16	11	8	34	19	8

SDD-A18



D1	D2	L1	L2	W
16	11	29	15	14

FDD

Forming-point diamond dresser

Forming diamond dressers are used for dressing specific forms into conventional abrasive wheels requiring longer tool life.

Natural diamonds have very high resistance while they could be easily broken and have unsteady tool life. Synthetic diamonds have steady tool life.

Generally, the bigger radius of diamonds can ensure longer tool life. However, a much bigger radius can cause grinding wheels to burn because it makes the grinding wheel's grit blunt.

RECOMMENDED ANGLE AND RADIUS — CHISEL DRESSER

Rough grinding	R 0.3~0.5 · 50°~60°
Finish grinding	R 0.1~0.25 · 30°~45°

Roof

D, E, F, G, H (PCD)
max 3/4 ct ~ min 1/4
ct

Chisel

D, E, F, G
max 3/4 ct ~ min 1/4
ct

Cone

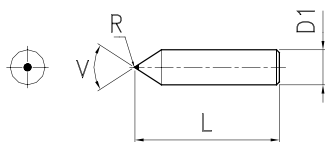
C (Elongated), G
(CVD)
max 1/2 ct ~ min 1/4
ct



FDD — Specifications

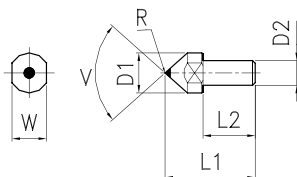
All dimensions in mm, angles in degrees

FDD-C01



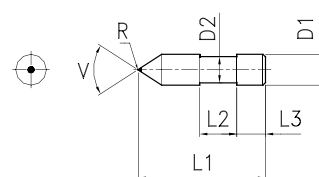
D1	L	V	R
11	30	90	0.3

FDD-C13



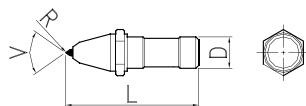
D1	D2	L1	V	R
15	11	23	90	0.3

FDD-C14



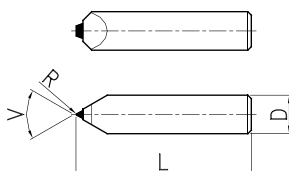
D1	D2	L1	V	R
10	8	43	90	0.3

FDD-C19



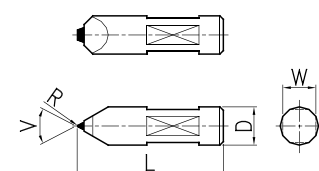
D	L	V	R
11	46.5	70	0.3

FDD-D01



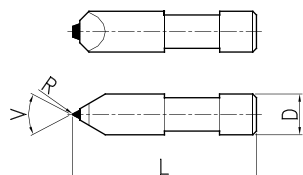
D	L	V	R
11	40	55	0.2

FDD-D05



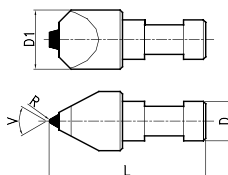
D	L	W	V	R
11	45	9	55	0.2

FDD-D12



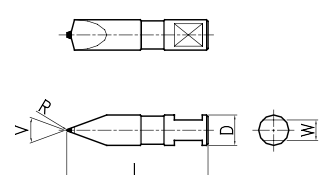
D	L	V	R
10	45	55	0.2

FDD-D14



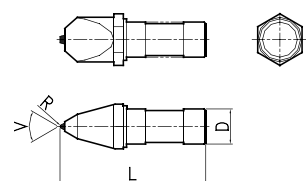
D1	D	L	V	R
12	8	32	55	0.2

FDD-D17



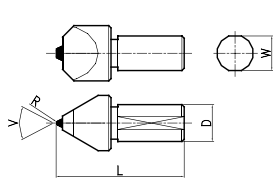
D	L	W	V	R
9.5	44.5	6	40	0.25

FDD-D19



D	L	V	R
11	46	60	0.3

FDD-D20



D	L	V	R
8	29	55	0.2

MDD

Multi-point diamond dresser

Two or more selected diamonds are set in a metal matrix to provide multi diamond points for dressing larger and wider conventional abrasive wheels. Multi-point diamond dressers have two types: one is a general type for dressing straight type conventional abrasive wheels, the other a blade type for dressing larger and conventional abrasive profile wheels at lower cost.

Multi-point diamond dressers using diamonds made by chemical vapour deposition are suited to get high quality surface finish and consistent performance. Multi-point diamond dressers made of elongated natural diamonds, called "Fliesen tool", have longer tool life.

NATURAL

Available diamond

A (Octahedron), B (Dodecahedron)

Available carat

max 1/3 ct ~ min 1/30 ct

BLADE TYPE

Available size

CVD 0.4 × 0.4 × 5 mm · CVD 0.6 × 0.6 × 5 mm

CVD 0.8 × 0.8 × 3 mm · CVD 0.8 × 0.8 × 6 mm

CVD 1.0 × 1.0 × 3 mm

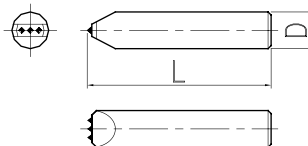
Elongated 1/20 ct ~ 1/80 ct

MDD-A01



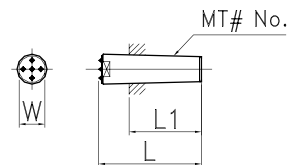
D	L
11	40

MDD-A05



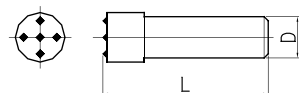
D	L
11	40

MDD-A09



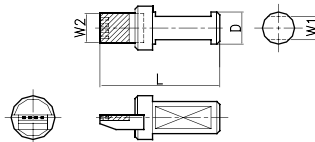
L	L1	W	Taper
32	22	8	MT No.1

MDD-A10



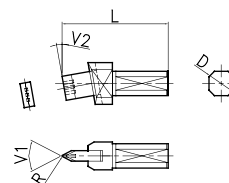
D	L
11	29

MDD-G21



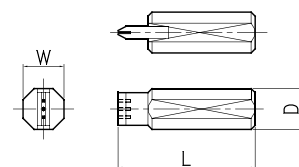
D	L	W1	W2
11	41	8	10

MDD-G22



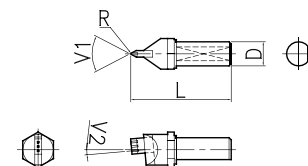
D	L	V1	V2	R
8	29	55	10	0.3

MDD-G23



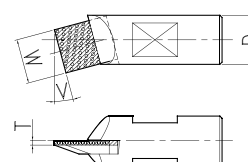
D	L	W
11	33	10

MDD-G24



D	L	V1	V2	R
11	46	55	5	0.3

MDD-B12

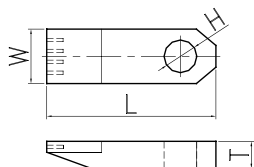


D	W	V	T
8	10	15	1.5

MDD — Blade types

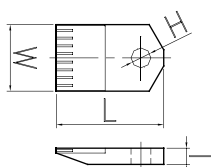
All dimensions in mm

MDD-G11



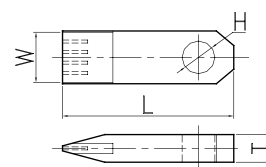
L	T	W	H
28	5	10	6.1

MDD-G12



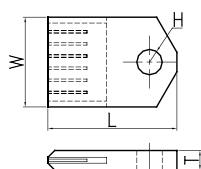
L	T	W	H
33	5	20	6.1

MDD-G13



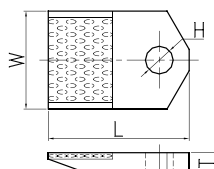
L	T	W	H
28	5	10	6.1

MDD-G14



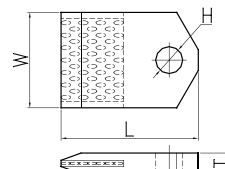
L	T	W	H
33	5	20	6.1

MDD-C12



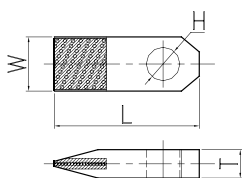
L	T	W	H
28	5	20	6.1

MDD-C14



L	T	W	H
33	5	20	6.1

MDD-B13



L	T	W	H
28	5	10	10

BLADE TYPE OR GENERAL TYPE?

Blade types (G11–G14, C12, C14, B13) dress larger and wider profile wheels at lower cost. General shank types (A01–A10, G21–G24) are the choice for straight type conventional wheels. Other shank dimensions on request.

IDD

Impregnated diamond dresser

Impregnated diamond dressers have tiny diamond particles bonded in a metal matrix. Dressing force is spread across the fine diamonds; impregnated diamond dressers can achieve longer tool life at lower cost.

Randomly distributed impregnated diamond dressers cannot optimally show their performance as required. That is why EHWA has developed patterned impregnated diamond dressers, manufactured with patented technology for dressing with precision.

P-IDD

Patterned impregnated diamond dresser

Patent no. 10-0428947 / US 6626167

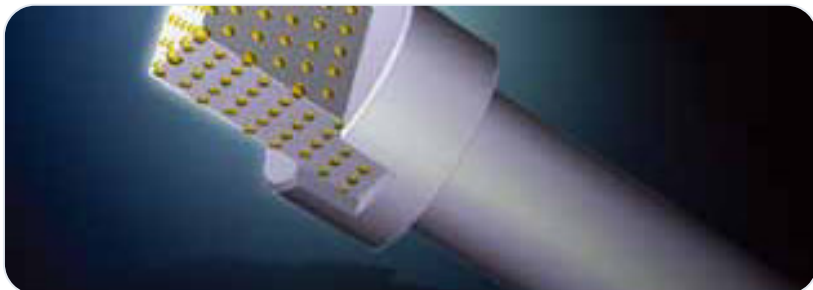
- Suitable for longer tool life and better performance
- Available mesh: #20 ~ #60

IDD

Impregnated diamond dresser

Non-patterned

- Used for economical dressing
- Available mesh: #20 ~ #140



IDD — Specifications

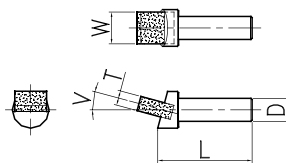
All dimensions in mm, angles in degrees

IDD-S01



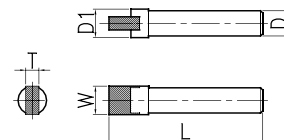
D	L	W	T
11	70	13	6

IDD-S03



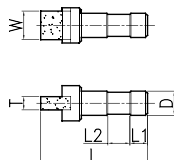
D	L	W	T	V
11	38	13	6	15

IDD-S04



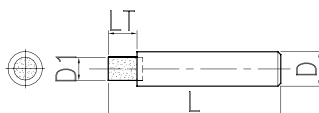
D	D1	L	W	T
11	14	70	13	6

IDD-S05



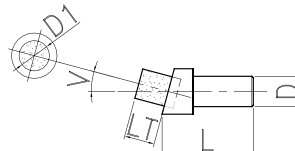
D	L	L1	L2	W	T
11	50	7	10	13	6

IDD-R01



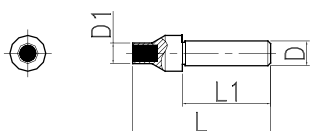
D	D1	L	LT
11	9	40	8

IDD-R03



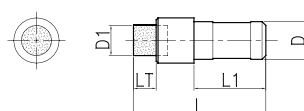
D	D1	L	LT	V
11	9	38	8	15

IDD-R04



D	D1	L	L1
11	10	40	24

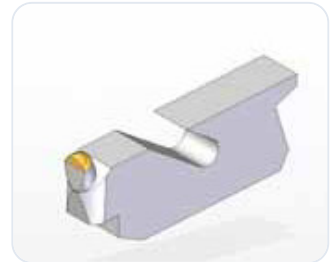
IDD-R05



D	D1	L	LT	V
11	9	40	24	8

Burnishing tools

Burnishing tools are manufactured by natural or mono crystalline diamonds. The burnishing process is a cold process using proper pressure without removal of the work pieces. The burnishing tools are very useful for metalworking because they help get high quality mirror-like surface finish and meet dimensions as requested. The diamond burnishing tools can ensure longer tool life and good surface finish.



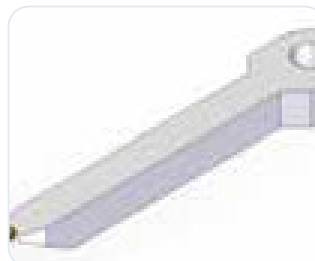
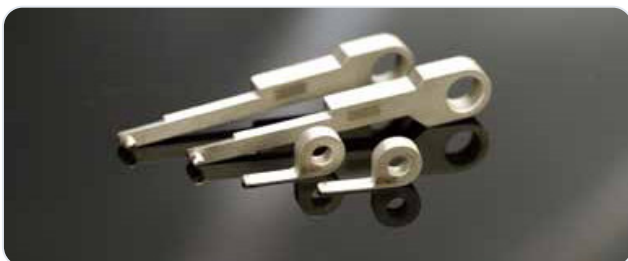
PCD (poly-crystalline diamond) dressers

PCD dressers are a cost-effective alternative in dressing conventional abrasive profile wheels. PCD is easier to get desired shapes than the other diamond materials. As a result, PCD dressers can dress grinding wheels with complex profiles. The relatively lower tool life can be compensated by lower price.



Contact gauges

Contact gauges with natural diamonds or poly-crystalline diamonds have almost 100 times longer tool life than tungsten carbides or high-speed steel. The diamond contact gauges can ensure highly accurate measurement with ultra wear resistance.





YOUR CONTACT IN EUROPE

EHWA Europe GmbH is the European sales company of EHWA Diamond Industrial Co., Ltd. (South Korea). We serve industrial customers across Europe in precision machining and industrial grinding technology. Since 1975, the name EHWA Diamond has stood for high quality diamond and CBN tools.

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