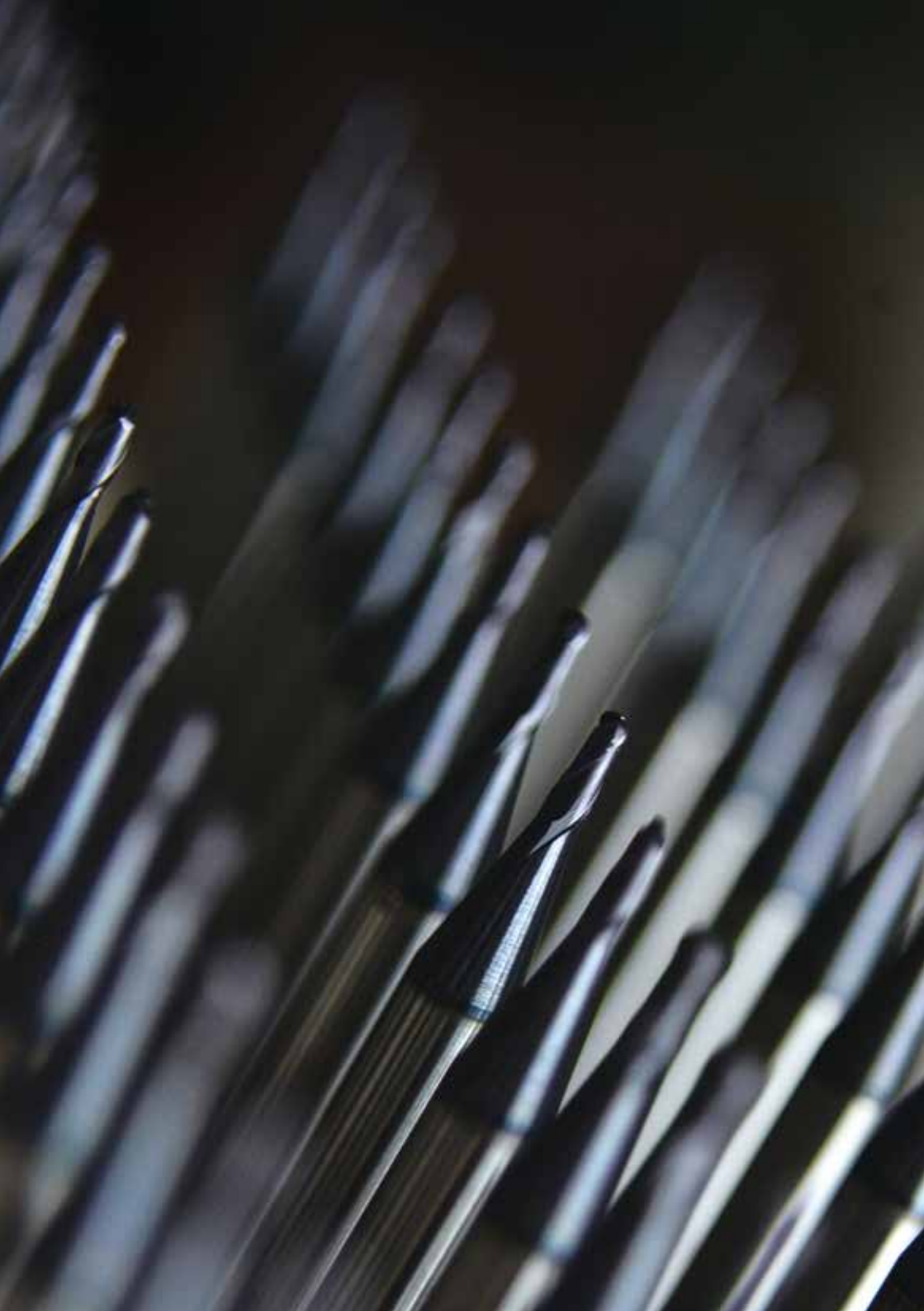

IDI TOOLS
for die and mold



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General

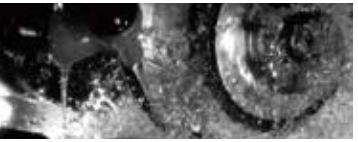
IDI Precision Machinery Ltd. is a professional tool maker funded in 2004. The first product was diamond coated tools for graphite milling. After more than 15 years of successful diamond tool manufacturing, we have taken a large step forward into steel cutting. We now provide a complete series of tooling solutions for high precision mold making. From hardened steel (up to HRC65) high feed roughing (up to F7000, 4 hours tool life) to high precision finishing (within 0.005mm tolerance and +/-0.002mm radius profile) for graphite electrodes milling (diamond coated), we offer more than 1500 tool specifications.

To reach the highest precision and tool performance, we implement the latest European technologies. Carbide material, grinding machines, state-of-the-art coating solutions and proprietary pre/post-treatment of tools, many of these processes are done in Europe by our European partners. Mitutoyo and Zoller measuring machines are used for diameter and radius profile control. In addition to cutting diameter, IDI closely monitors shank diameter, radius profile and run out. All of which are maintained to the highest of tolerance. Above that, coating layers and micro chipping are examined and monitored to meet the highest standards for the most demanding machining situation.

IDI high precision facility

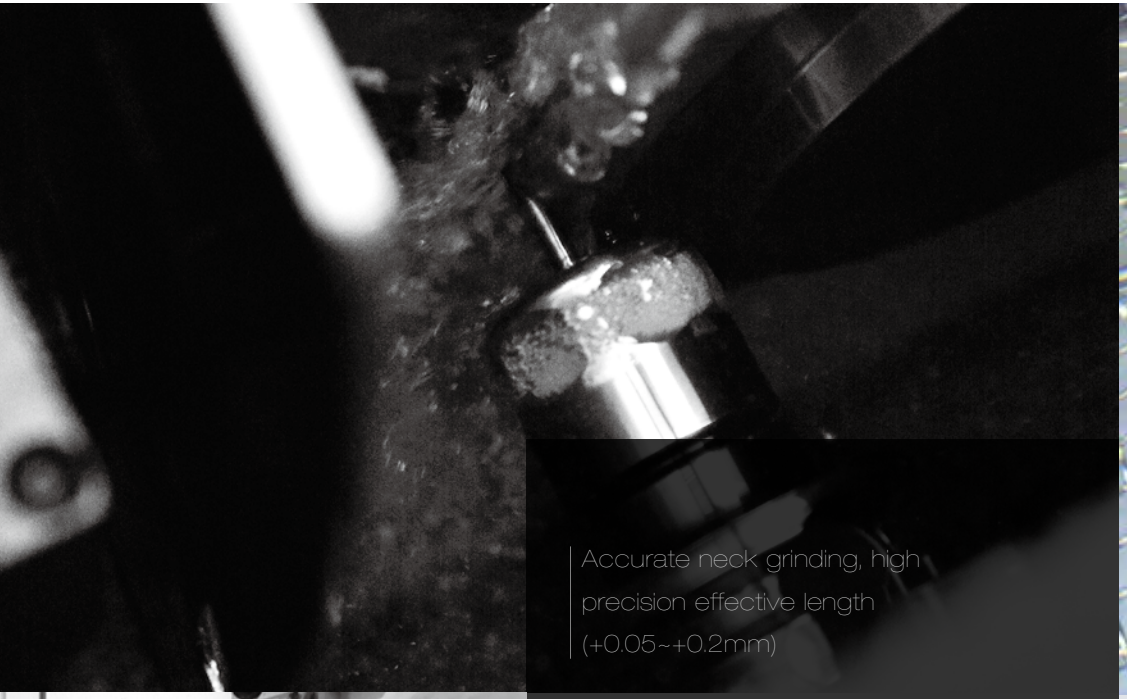
Small cell, two machine grinding room, high stability room temperature

High precision oil filtering system



Best grinding machine, linear motor, torque motor,
direct drive, linear scale, no back lash, granite structure,
all for smooth, stable and accurate movement

Shank support for
mininum run out

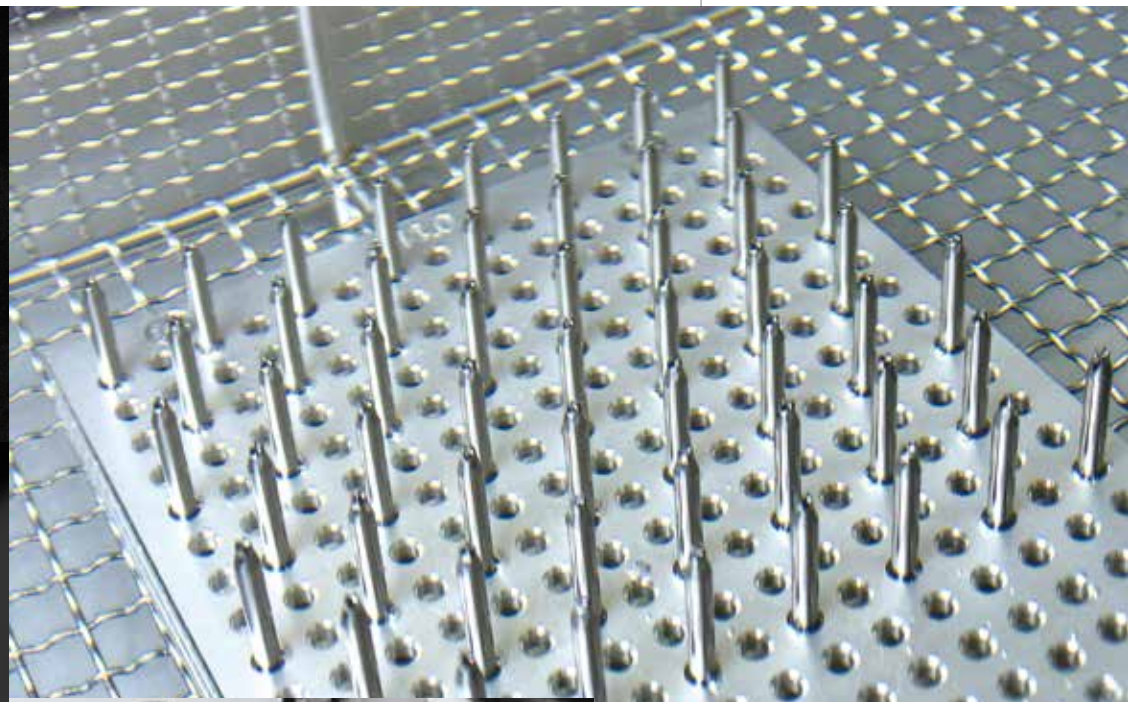


Accurate neck grinding, high precision effective length (+0.05~+0.2mm)

Best synthetic grinding oil from Germany prevents cobalt leaching and good for human health

Accurate grinding oil temperature control, +/-0.1℃

Ultrasonic tool cleaning



Experienced staff

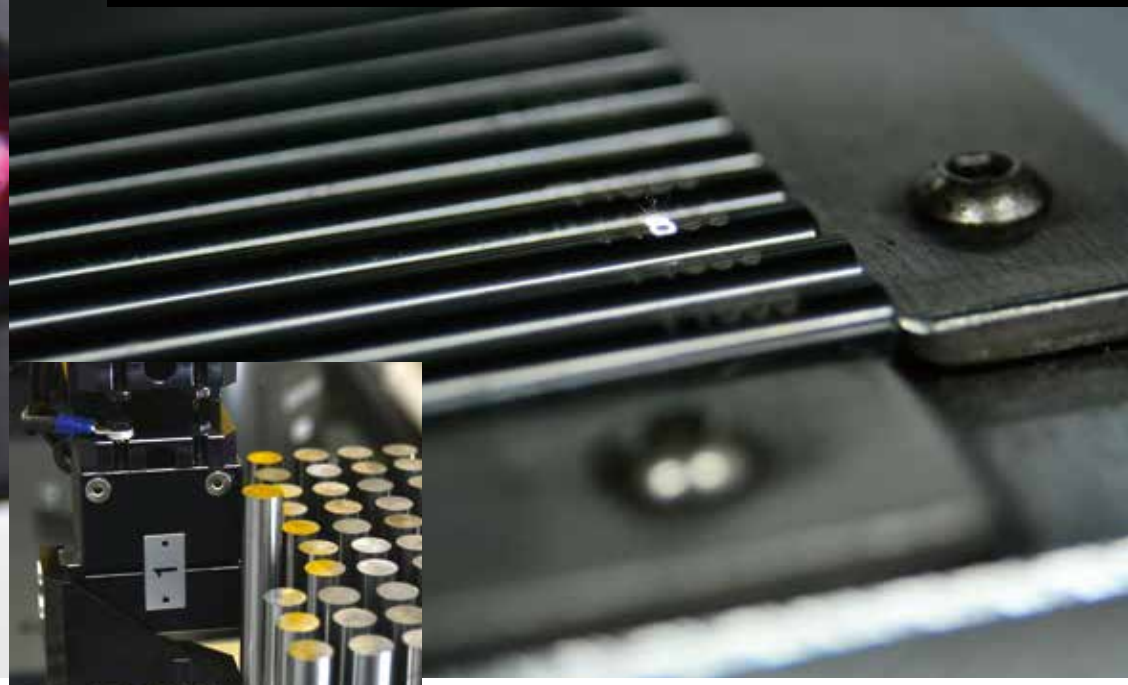
Edge preparation and
coating layer polishing
for higher tool life.

Mitutoyo laser measuring machine for
tool diameter and run out inspection

QC control

Zoller measuring machine for
radius profile inspection

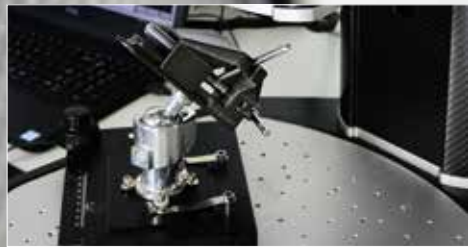
Laser mark for material tracing



Accurate centerless blank grinding for minimum
run out and precise shank diameter (h5)

High resolution microscope visual check to avoid any coating failure or edge chipping

Edge preparation quality control with high resolution edge rounding inspection machine



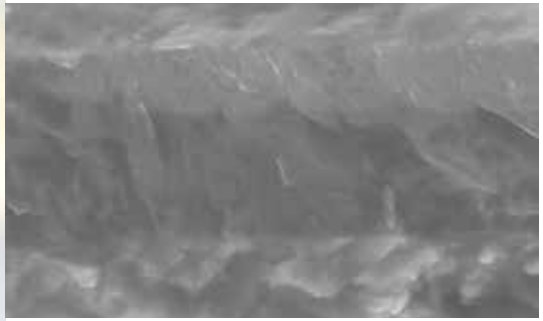
Carbide Material

HF35 tungsten carbide: ultrafine grain size, high cobalt content for high toughness, capable of absorbing machining shocks during roughing processes. HF35 is used in HFE, HFEC, HFM, HFMC series for steel roughing process.

H31 tungsten carbide: ultrafine grain size, high hardness for hardened steel finishing process, excellent wear resistance combined with superior durability. H31 is used in HDB, HDC, HQC series for hardened steel finishing process.

D17 tungsten carbide: D17 is our sixth-generation material specially designed for diamond coating. Coarse grain size, low cobalt content and special additives provide highest diamond film adhesion. D17 material is used in all our diamond coated tools for both metric and Imperial series.

Our coating solution

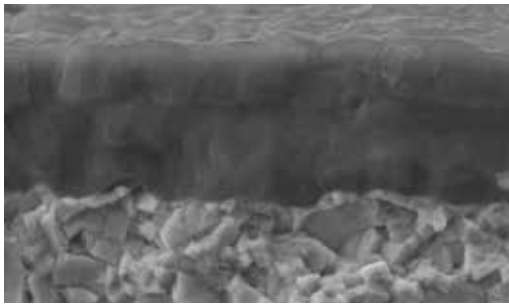


Steel roughing: AXH

AXH is a special CVD coating solution of AlTiN layer with silicon additives. The coating layer is formed by implanting high energy coating material plasma on the substrate surface. The high energy implanting process results in very good adhesion which gives the capability of enduring intensive milling shocks during steel roughing. Due to silicon and other special additives, AXH has excellent wear resistance that provides long tool life and high machining efficiency. The polished coating surface also ensures low cutting friction and excellent chip removal which is crucial for high metal removal rate processes. AXH provides excellent tool life (up to 4 hours on HFM series) for steel roughing up to HRC65. AXH coating is used on our HFM, HFMC, HFE and HFEC tool series.

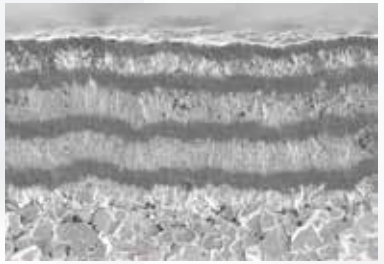
Steel finishing: BLA

BLA is a state-of-the-art coating solution specially designed for hardened steel cutting up to HRC65. By implementing an intesive and special pretreatment and post polishing process, our tooling offers excellent coating adhesion and very low surface friction. In addition, the



high hardness and heat resistant coating structure and polished surface provide excellent heat dissipation, chip removal efficiency and high edge stability. BLA coating solution maintains high edge precision (sharp or rounded) ideal for sensitive milling processes. BLA coating, done by our European partners, is used on our HDB, HDC and HQC tool series.

Graphite cutting: DG



DG diamond coating is the result of a strict proprietary relationship of material, grinding, polishing, post and pre-treatment and mutual cooperation with coating, inspection and cutting test teams with over ten years of graphite milling field experience. DG coating is a multilayer diamond film coated on our special D17 substrate. With several layers of nano and micro crystalline diamond films overlapped each other, this coating solution provides not only the highest hardness of diamond but also smooth lubrication during graphite milling. Thanks to the fine-tuned coating process, our diamond film is now among the very best and most reliable diamond coating in the industry. In addition, IDI has a 100% inspection procedure after coating to ensure tool consistency and reliability. Our diamond coating, done in Europe, providing excellent tool life and stability for graphite milling, is used on all our diamond coated tools.

Helix angle

For Steel cutting

For Graphite cutting

For steel cutting up to HRC65

Two flutes

Four flutes

Tapered flute

AXH coating for steel roughing

BLA coating for steel finishing

Diamond coating for graphite milling

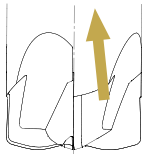
polished flute edge

High Feed Tools for Steel Mold Roughing

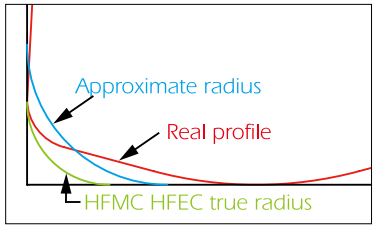
HFM / HFMC / HFE / HFEC

IDI high feed tool is the best choice when you need to remove your mold stock very quickly. Specially adapted for small axial depth of cut, high feed rate, and large radial step over, IDI HFM/ HFE tools provide high efficient roughing process and leave smooth stock for finishing. Thanks to our ultrafine carbide material, special geometry, and the new multilayer nanocomposite coating solution, we can achieve both high hardness and toughness for hardened steel mold roughing.

- High lead angle conducts cutting force to axial direction allows long tool overhang without vibration even at high speed.

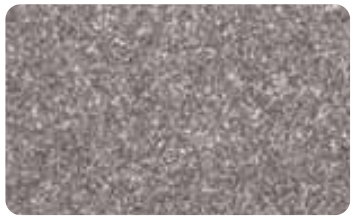


- Multilayer nanocomposite coating ensures high heat resistance during hard milling.



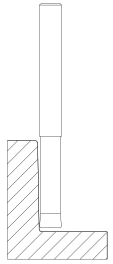
- Large space for fast chip evacuation

- Ultrafine carbide material provides excellent hardness and toughness during high feed milling.

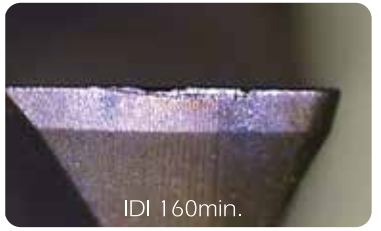


- Strengthened flute base provides more stable cutting.

- Large taper angle avoid interference with vertical walls.

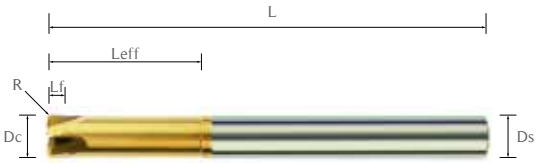


Material:Buderus 2344, HRC53
S7000rpm, F4572mm/min
ap 0.2mm, ae 55%



HIGH FEED TOOLS

HFM



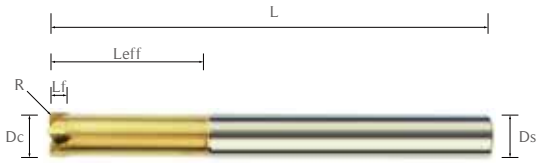
Shank Ds: h5

unit: mm

Part No.	Tool Type	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff	Corner Radius (Approx. value) R	Shank Dia. Ds	Overall Length L
HFM3-2-2-10-50	High Feed	3	2	2	10	0.43	4	50
HFM4-2-3-15-50	High Feed	4	2	3	15	0.57	4	50
HFM6-4-4-25-75	High Feed	6	4	4	25	0.85	6	75
HFM8-4-4-30-75	High Feed	8	4	4	30	1.13	8	75
HFM10-4-4-35-100	High Feed	10	4	4	35	1.42	10	100
HFM12-4-4-40-100	High Feed	12	4	4	40	1.7	12	100

HIGH FEED TOOLS

HFMC



Shank Ds: h5

True Radius

unit: mm

Part No.	Tool Type	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff	Corner Radius R	Shank Dia. Ds	Overall Length L
HFMC6-4-4-25-75R0.5	High Feed	6	4	4	25	0.5	6	75
HFMC8-4-4-30-75R0.7	High Feed	8	4	4	30	0.7	8	75
HFMC10-4-4-35-100R0.9	High Feed	10	4	4	35	0.9	10	100
HFMC12-4-4-40-100R1	High Feed	12	4	4	40	1	12	100

High Feed

HIGH FEED TOOLS

Cutting condition

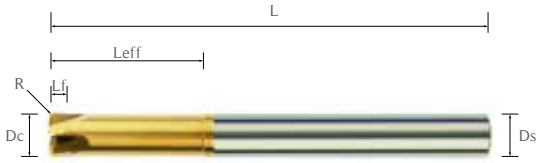
HFM / HFMC

unit: mm

Tool Dia.	No. of flutes	ae	ap	Steel HRC30-40			Steel HRC40-50			Steel HRC50-60		
				Vc=180mm/min.			Vc=150mm/min.			Vc=130mm/min.		
				S	F	fz	S	F	fz	S	F	fz
3	2	45-75%	0.10-0.12	19099	2674	0.07	15915	2228	0.07	13794	1931	0.07
4	2	45-75%	0.12-0.15	14324	2864	0.1	11937	2387	0.1	10345	2069	0.1
6	4	45-75%	0.15-0.2	9554	5732	0.15	7962	4777	0.15	6900	4140	0.15
8	4	45-75%	0.2-0.3	7166	4300	0.15	5971	3583	0.15	5175	3105	0.15
10	4	45-75%	0.2-0.4	5732	4586	0.2	4777	3822	0.2	4140	3312	0.2
12	4	45-75%	0.2-0.45	4777	4777	0.25	3981	3981	0.25	3450	3450	0.25

HIGH FEED TOOLS

HFE



Shank Ds: h5

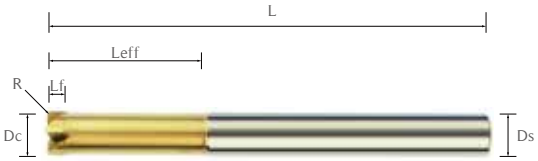
unit: inch

Part No.	Tool Type	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff	Corner Radius (Approx. value) R	Shank Dia. Ds	Overall Length L
HFE08-2-07-14-30	High Feed	1/8	2	3/32	3/8	0.018	1/4	2
HFE11-2-08-18-30	High Feed	3/16	2	1/8	5/8	0.026	1/4	2
HFE12-4-10-22-32	High Feed	1/4	4	5/32	1	0.035	1/4	3
HFE14-4-10-25-33	High Feed	3/8	4	5/32	1 3/8	0.053	3/8	4
HFE16-4-10-26-33	High Feed	1/2	4	5/32	1 1/2	0.071	1/2	4

High Feed

HIGH FEED TOOLS

HFEC



Shank Ds: h5

True Radius

unit: inch

Part No.	Tool Type	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff	Corner Radius R	Shank Dia. Ds	Overall Length L
HFEC12-4-10-22-32R020	High Feed	1/4	4	5/32	1	0.02	1/4	3
HFEC14-4-10-25-33R035	High Feed	3/8	4	5/32	1 3/8	0.035	3/8	4
HFEC16-4-10-26-33R045	High Feed	1/2	4	5/32	1 1/2	0.045	1/2	4

HIGH FEED TOOLS

Cutting condition

HFE / HFEC

unit: inch

Tool Dia.	No. of flutes	ae	ap	Steel HRC30-40			Steel HRC40-50			Steel HRC50-60		
				Vc=180mm/min.			Vc=150mm/min.			Vc=130mm/min.		
				S	F	fz	S	F	fz	S	F	fz
1/8	2	45-75%	0.0039-0.0047	18046	101	0.0028	15039	84	0.0028	13034	73	0.0028
3/16	2	45-75%	0.0047-0.0059	12031	94	0.0039	10026	78	0.0039	8689	68	0.0039
1/4	4	45-75%	0.0059-0.0079	9028	213	0.0059	7523	178	0.0059	6520	154	0.0059
3/8	4	45-75%	0.0079-0.0157	6018	190	0.0079	5015	158	0.0079	4347	137	0.0079
1/2	4	45-75%	0.0079-0.0177	4514	177	0.0098	3761	147	0.0098	3260	128	0.0098

Ball Nose/ Bull Nose Tools for Steel Mold Finishing

HDB / HDC / HQC

IDI H series are designed for hardened steel finishing for steel molds. The main purpose is to provide customers ultra-high precision radius profile tools with long tool life and high milling efficiency. To achieve this goal, we engineered & designed MGW (Minimum Grinding Wheel) geometry to minimize grinding wheel variations during grinding. A high performance, unique ultrafine grain carbide material is used to provide superior hardness and excellent durability. This additional cost is simply to help minimize chipping. A rigid design, utilizing short tapered flutes, proprietary ball tip shape, combined with extremely sharp edges, provides the most stable machining conditions for high cutting speed and excellent surface finish.

Our specially designed coating solution and pre/post-treatment of the tool result in very strong coating adhesion, high oxidation resistance and low coating surface friction. This unique combination provides for superior tool life.

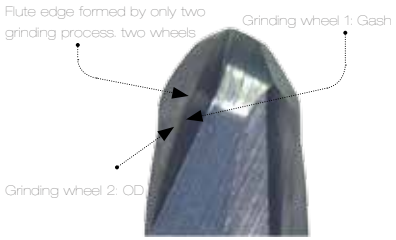
For your unique machining requirements, IDI manufactures more than 1200 tool specifications of various cutting diameter, corner radius and effective length. You can always find what you need for your precision machining application.

Sharp ball nose tool tip and special geometry angles gives excellent surface finish.

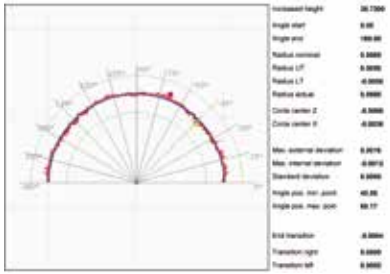
Hard milling tool design

MGW (minimum grinding wheel) flute geometry:
to reach highest level of radius profile precision

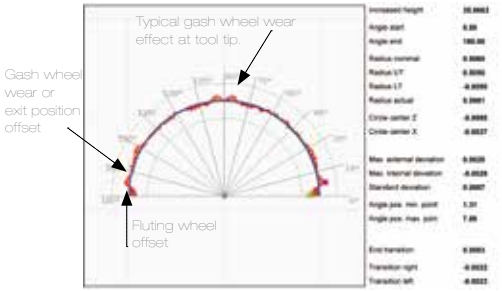
IDI 2mm ball nose tool: HDB2006



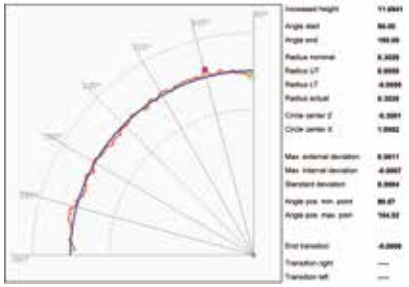
Simple elegant flute edge formed by minimum number of grinding wheels ensures highest ball profile precision even in mass production.



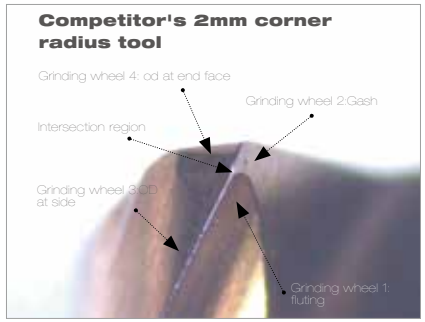
Competitor's 2mm ball nose tool

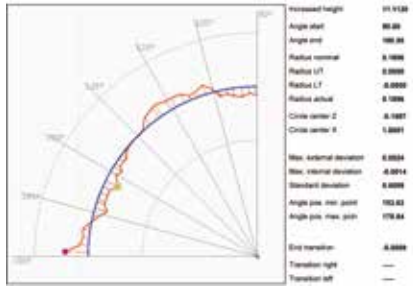


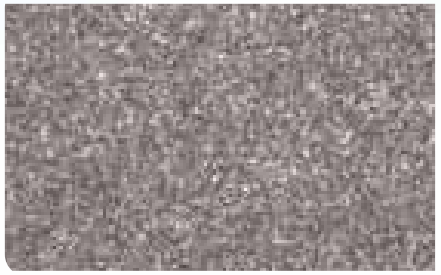
IDI 4mm corner radius nose tool: HQC4008



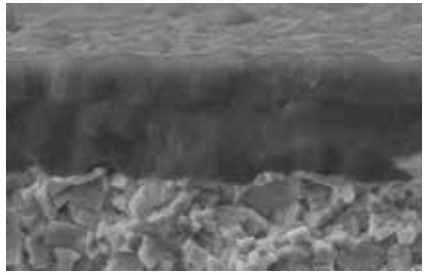
Competitor's 2mm corner radius tool







ultrafine grain size carbide material used to reach both hardness and toughness

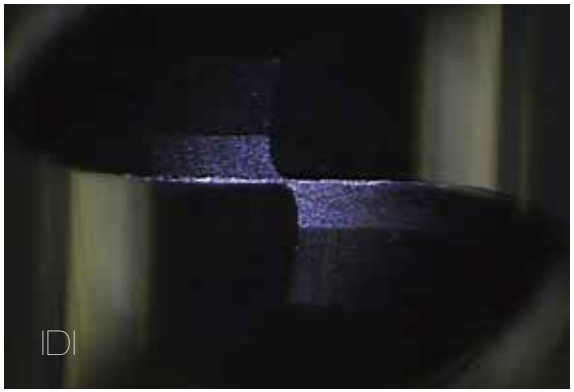


BLA coating solution: good adhesion at high temperature, high wear resistance, good edge stability

Cutting test

Material: BOHLER W360ESR HRC58

S18000 F2520, ap=0.2, ae=0.27, 25min.



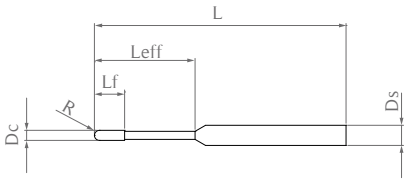
Stub preforming of tool, shortest overhang, high stiffness

High back taper, short flute length, prevent colliding

Standard reach every 1mm for tools above 0.8mm(include), every 0.5m for tools from 0.2mm to 0.76mm

HARD MILLING TOOLS

HDB02



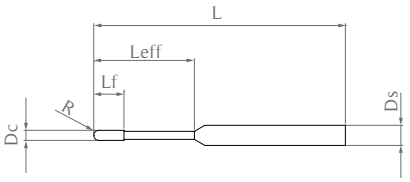
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB02002	0.2	0.1	2	0.2	0.2	4	50
HDB02005	0.2	0.1	2	0.2	0.5	4	50
HDB0201	0.2	0.1	2	0.2	1	4	50
HDB02015	0.2	0.1	2	0.2	1.5	4	50
HDB0202	0.2	0.1	2	0.2	2	4	50
HDB02025	0.2	0.1	2	0.2	2.5	4	50
HDB0202	0.2	0.1	2	0.2	3	4	50
HDB02035	0.2	0.1	2	0.2	3.5	4	50
HDB0204	0.2	0.1	2	0.2	4	4	50

HARD MILLING TOOLS

HDB03



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

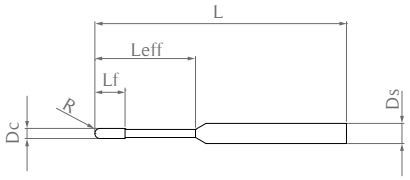
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB03002	0.3	0.15	2	0.2	0.2	4	50
HDB03005	0.3	0.15	2	0.2	0.5	4	50
HDB0301	0.3	0.15	2	0.2	1	4	50
HDB03015	0.3	0.15	2	0.2	1.5	4	50
HDB0302	0.3	0.15	2	0.2	2	4	50
HDB03025	0.3	0.15	2	0.2	2.5	4	50
HDB0303	0.3	0.15	2	0.2	3	4	50
HDB03035	0.3	0.15	2	0.2	3.5	4	50
HDB0304	0.3	0.15	2	0.2	4	4	50
HDB03045	0.3	0.15	2	0.2	4.5	4	50
HDB0305	0.3	0.15	2	0.2	5	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB04



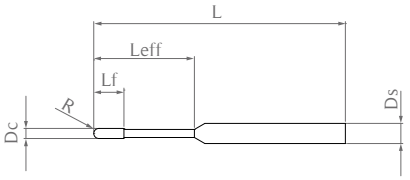
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB04003	0.4	0.2	2	0.3	0.3	4	50
HDB04005	0.4	0.2	2	0.3	0.5	4	50
HDB0401	0.4	0.2	2	0.3	1	4	50
HDB04015	0.4	0.2	2	0.3	1.5	4	50
HDB0402	0.4	0.2	2	0.3	2	4	50
HDB04025	0.4	0.2	2	0.3	2.5	4	50
HDB0403	0.4	0.2	2	0.3	3	4	50
HDB04035	0.4	0.2	2	0.3	3.5	4	50
HDB0404	0.4	0.2	2	0.3	4	4	50
HDB04045	0.4	0.2	2	0.3	4.5	4	50
HDB0405	0.4	0.2	2	0.3	5	4	50
HDB04055	0.4	0.2	2	0.3	5.5	4	50
HDB0406	0.4	0.2	2	0.3	6	4	50

HARD MILLING TOOLS

HDB05



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

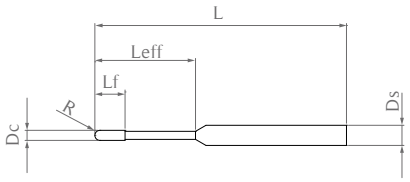
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB05004	0.5	0.25	2	0.4	0.4	4	50
HDB0501	0.5	0.25	2	0.4	1	4	50
HDB05015	0.5	0.25	2	0.4	1.5	4	50
HDB0502	0.5	0.25	2	0.4	2	4	50
HDB05025	0.5	0.25	2	0.4	2.5	4	50
HDB0503	0.5	0.25	2	0.4	3	4	50
HDB05035	0.5	0.25	2	0.4	3.5	4	50
HDB0504	0.5	0.25	2	0.4	4	4	50
HDB05045	0.5	0.25	2	0.4	4.5	4	50
HDB0505	0.5	0.25	2	0.4	5	4	50
HDB05055	0.5	0.25	2	0.4	5.5	4	50
HDB0506	0.5	0.25	2	0.4	6	4	50
HDB05065	0.5	0.25	2	0.4	6.5	4	50
HDB0507	0.5	0.25	2	0.4	7	4	50
HDB05075	0.5	0.25	2	0.4	7.5	4	50
HDB0508	0.5	0.25	2	0.4	8	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB06



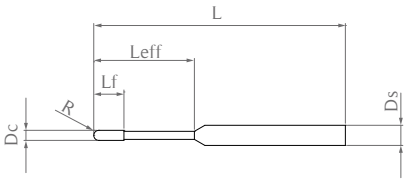
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB06005	0.6	0.3	2	0.5	0.5	4	50
HDB0601	0.6	0.3	2	0.5	1	4	50
HDB06015	0.6	0.3	2	0.5	1.5	4	50
HDB0602	0.6	0.3	2	0.5	2	4	50
HDB06025	0.6	0.3	2	0.5	2.5	4	50
HDB0603	0.6	0.3	2	0.5	3	4	50
HDB06035	0.6	0.3	2	0.5	3.5	4	50
HDB0604	0.6	0.3	2	0.5	4	4	50
HDB06045	0.6	0.3	2	0.5	4.5	4	50
HDB0605	0.6	0.3	2	0.5	5	4	50
HDB06055	0.6	0.3	2	0.5	5.5	4	50
HDB0606	0.6	0.3	2	0.5	6	4	50
HDB06065	0.6	0.3	2	0.5	6.5	4	50
HDB0607	0.6	0.3	2	0.5	7	4	50
HDB06075	0.6	0.3	2	0.5	7.5	4	50
HDB0608	0.6	0.3	2	0.5	8	4	50
HDB06085	0.6	0.3	2	0.5	8.5	4	50

HARD MILLING TOOLS

HDB06



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

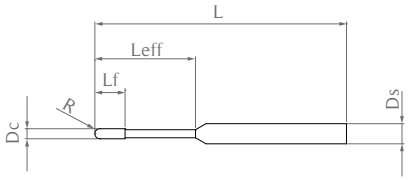
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB0609	0.6	0.3	2	0.5	9	4	50
HDB06095	0.6	0.3	2	0.5	9.5	4	50
HDB0610	0.6	0.3	2	0.5	10	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB08



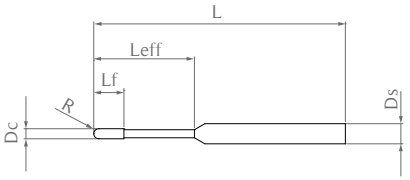
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB0801	0.8	0.4	2	0.6	1	4	50
HDB0802	0.8	0.4	2	0.6	2	4	50
HDB0803	0.8	0.4	2	0.6	3	4	50
HDB0804	0.8	0.4	2	0.6	4	4	50
HDB0805	0.8	0.4	2	0.6	5	4	50
HDB0806	0.8	0.4	2	0.6	6	4	50
HDB0807	0.8	0.4	2	0.6	7	4	50
HDB0808	0.8	0.4	2	0.6	8	4	50
HDB0809	0.8	0.4	2	0.6	9	4	50
HDB0810	0.8	0.4	2	0.6	10	4	50

HARD MILLING TOOLS

HDB10



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

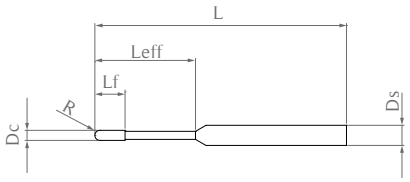
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1001	1	0.5	2	0.8	1	4	50
HDB1002	1	0.5	2	0.8	2	4	50
HDB1003	1	0.5	2	0.8	3	4	50
HDB1004	1	0.5	2	0.8	4	4	50
HDB1005	1	0.5	2	0.8	5	4	50
HDB1006	1	0.5	2	0.8	6	4	50
HDB1007	1	0.5	2	0.8	7	4	50
HDB1008	1	0.5	2	0.8	8	4	50
HDB1009	1	0.5	2	0.8	9	4	50
HDB1010	1	0.5	2	0.8	10	4	50
HDB1011	1	0.5	2	0.8	11	4	50
HDB1012	1	0.5	2	0.8	12	4	50
HDB1013	1	0.5	2	0.8	13	4	50
HDB1014	1	0.5	2	0.8	14	4	50
HDB1015	1	0.5	2	0.8	15	4	50
HDB1016	1	0.5	2	0.8	16	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB12



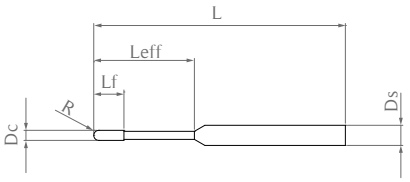
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1201	1.2	0.6	2	1	1	4	50
HDB1202	1.2	0.6	2	1	2	4	50
HDB1203	1.2	0.6	2	1	3	4	50
HDB1204	1.2	0.6	2	1	4	4	50
HDB1205	1.2	0.6	2	1	5	4	50
HDB1206	1.2	0.6	2	1	6	4	50
HDB1207	1.2	0.6	2	1	7	4	50
HDB1208	1.2	0.6	2	1	8	4	50
HDB1209	1.2	0.6	2	1	9	4	50
HDB1210	1.2	0.6	2	1	10	4	50
HDB1211	1.2	0.6	2	1	11	4	50
HDB1212	1.2	0.6	2	1	12	4	50
HDB1213	1.2	0.6	2	1	13	4	50
HDB1214	1.2	0.6	2	1	14	4	50
HDB1215	1.2	0.6	2	1	15	4	50
HDB1216	1.2	0.6	2	1	16	4	50

HARD MILLING TOOLS

HDB14



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

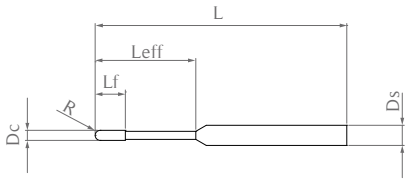
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1402	1.4	0.7	2	1.2	2	4	50
HDB1403	1.4	0.7	2	1.2	3	4	50
HDB1404	1.4	0.7	2	1.2	4	4	50
HDB1405	1.4	0.7	2	1.2	5	4	50
HDB1406	1.4	0.7	2	1.2	6	4	50
HDB1407	1.4	0.7	2	1.2	7	4	50
HDB1408	1.4	0.7	2	1.2	8	4	50
HDB1409	1.4	0.7	2	1.2	9	4	50
HDB1410	1.4	0.7	2	1.2	10	4	50
HDB1411	1.4	0.7	2	1.2	11	4	50
HDB1412	1.4	0.7	2	1.2	12	4	50
HDB1413	1.4	0.7	2	1.2	13	4	50
HDB1414	1.4	0.7	2	1.2	14	4	50
HDB1415	1.4	0.7	2	1.2	15	4	50
HDB1416	1.4	0.7	2	1.2	16	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB15



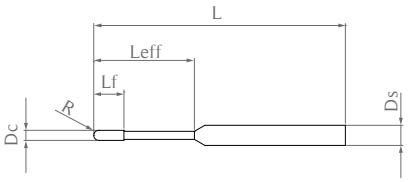
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1502	1.5	0.75	2	1.3	2	4	50
HDB1503	1.5	0.75	2	1.3	3	4	50
HDB1504	1.5	0.75	2	1.3	4	4	50
HDB1505	1.5	0.75	2	1.3	5	4	50
HDB1506	1.5	0.75	2	1.3	6	4	50
HDB1507	1.5	0.75	2	1.3	7	4	50
HDB1508	1.5	0.75	2	1.3	8	4	50
HDB1509	1.5	0.75	2	1.3	9	4	50
HDB1510	1.5	0.75	2	1.3	10	4	50
HDB1511	1.5	0.75	2	1.3	11	4	50
HDB1512	1.5	0.75	2	1.3	12	4	50
HDB1513	1.5	0.75	2	1.3	13	4	50
HDB1514	1.5	0.75	2	1.3	14	4	50
HDB1515	1.5	0.75	2	1.3	15	4	50
HDB1516	1.5	0.75	2	1.3	16	4	50

HARD MILLING TOOLS

HDB16



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

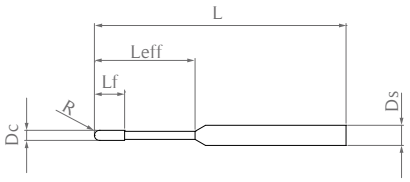
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1602	1.6	0.8	2	1.4	2	4	50
HDB1603	1.6	0.8	2	1.4	3	4	50
HDB1604	1.6	0.8	2	1.4	4	4	50
HDB1605	1.6	0.8	2	1.4	5	4	50
HDB1606	1.6	0.8	2	1.4	6	4	50
HDB1607	1.6	0.8	2	1.4	7	4	50
HDB1608	1.6	0.8	2	1.4	8	4	50
HDB1609	1.6	0.8	2	1.4	9	4	50
HDB1610	1.6	0.8	2	1.4	10	4	50
HDB1611	1.6	0.8	2	1.4	11	4	50
HDB1612	1.6	0.8	2	1.4	12	4	50
HDB1613	1.6	0.8	2	1.4	13	4	50
HDB1614	1.6	0.8	2	1.4	14	4	50
HDB1615	1.6	0.8	2	1.4	15	4	50
HDB1616	1.6	0.8	2	1.4	16	4	50
HDB1617	1.6	0.8	2	1.4	17	4	50
HDB1618	1.6	0.8	2	1.4	18	4	50
HDB1619	1.6	0.8	2	1.4	19	4	50
HDB1620	1.6	0.8	2	1.4	20	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB18



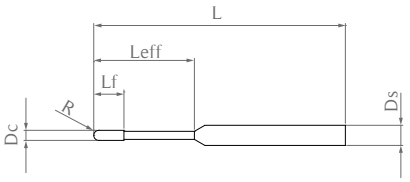
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB1802	1.8	0.9	2	1.6	2	4	50
HDB1803	1.8	0.9	2	1.6	3	4	50
HDB1804	1.8	0.9	2	1.6	4	4	50
HDB1805	1.8	0.9	2	1.6	5	4	50
HDB1806	1.8	0.9	2	1.6	6	4	50
HDB1807	1.8	0.9	2	1.6	7	4	50
HDB1808	1.8	0.9	2	1.6	8	4	50
HDB1809	1.8	0.9	2	1.6	9	4	50
HDB1810	1.8	0.9	2	1.6	10	4	50
HDB1811	1.8	0.9	2	1.6	11	4	50
HDB1812	1.8	0.9	2	1.6	12	4	50
HDB1813	1.8	0.9	2	1.6	13	4	50
HDB1814	1.8	0.9	2	1.6	14	4	50
HDB1815	1.8	0.9	2	1.6	15	4	50
HDB1816	1.8	0.9	2	1.6	16	4	50
HDB1817	1.8	0.9	2	1.6	17	4	50
HDB1818	1.8	0.9	2	1.6	18	4	50
HDB1819	1.8	0.9	2	1.6	19	4	50
HDB1820	1.8	0.9	2	1.6	20	4	50

HARD MILLING TOOLS

HDB20



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

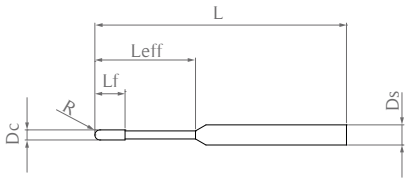
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB2002	2	1	2	1.7	2	4	50
HDB2003	2	1	2	1.7	3	4	50
HDB2004	2	1	2	1.7	4	4	50
HDB2005	2	1	2	1.7	5	4	50
HDB2006	2	1	2	1.7	6	4	50
HDB2007	2	1	2	1.7	7	4	50
HDB2008	2	1	2	1.7	8	4	50
HDB2009	2	1	2	1.7	9	4	50
HDB2010	2	1	2	1.7	10	4	50
HDB2011	2	1	2	1.7	11	4	50
HDB2012	2	1	2	1.7	12	4	50
HDB2013	2	1	2	1.7	13	4	50
HDB2014	2	1	2	1.7	14	4	50
HDB2015	2	1	2	1.7	15	4	50
HDB2016	2	1	2	1.7	16	4	50
HDB2017	2	1	2	1.7	17	4	50
HDB2018	2	1	2	1.7	18	4	50
HDB2019	2	1	2	1.7	19	4	50
HDB2020	2	1	2	1.7	20	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB25



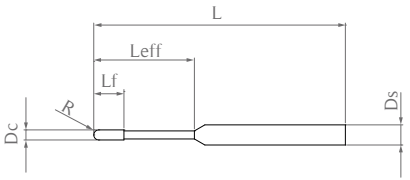
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB2502	2.5	1.25	2	2	2	4	50
HDB2503	2.5	1.25	2	2	3	4	50
HDB2504	2.5	1.25	2	2	4	4	50
HDB2505	2.5	1.25	2	2	5	4	50
HDB2506	2.5	1.25	2	2	6	4	50
HDB2507	2.5	1.25	2	2	7	4	50
HDB2508	2.5	1.25	2	2	8	4	50
HDB2509	2.5	1.25	2	2	9	4	50
HDB2510	2.5	1.25	2	2	10	4	50
HDB2511	2.5	1.25	2	2	11	4	50
HDB2512	2.5	1.25	2	2	12	4	50
HDB2513	2.5	1.25	2	2	13	4	50
HDB2514	2.5	1.25	2	2	14	4	50
HDB2515	2.5	1.25	2	2	15	4	50
HDB2516	2.5	1.25	2	2	16	4	50
HDB2517	2.5	1.25	2	2	17	4	50
HDB2518	2.5	1.25	2	2	18	4	50
HDB2519	2.5	1.25	2	2	19	4	50

HARD MILLING TOOLS

HDB25



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

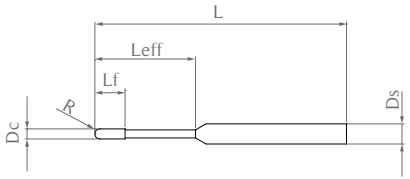
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB2520	2.5	1.25	2	2	20	4	50
HDB2521	2.5	1.25	2	2	21	4	50
HDB2522	2.5	1.25	2	2	22	4	50
HDB2523	2.5	1.25	2	2	23	4	50
HDB2524	2.5	1.25	2	2	24	4	50
HDB2525	2.5	1.25	2	2	25	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB30



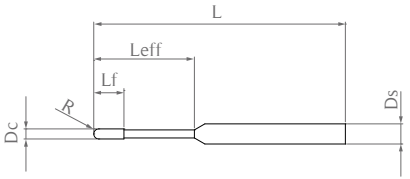
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB3003	3	1.5	2	2.5	3	4	50
HDB3004	3	1.5	2	2.5	4	4	50
HDB3005	3	1.5	2	2.5	5	4	50
HDB3006	3	1.5	2	2.5	6	4	50
HDB3007	3	1.5	2	2.5	7	4	50
HDB3008	3	1.5	2	2.5	8	4	50
HDB3009	3	1.5	2	2.5	9	4	50
HDB3010	3	1.5	2	2.5	10	4	50
HDB3011	3	1.5	2	2.5	11	4	50
HDB3012	3	1.5	2	2.5	12	4	50
HDB3013	3	1.5	2	2.5	13	4	50
HDB3014	3	1.5	2	2.5	14	4	50
HDB3015	3	1.5	2	2.5	15	4	50
HDB3016	3	1.5	2	2.5	16	4	50
HDB3017	3	1.5	2	2.5	17	4	50
HDB3018	3	1.5	2	2.5	18	4	50
HDB3019	3	1.5	2	2.5	19	4	50
HDB3020	3	1.5	2	2.5	20	4	50

HARD MILLING TOOLS

HDB30



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

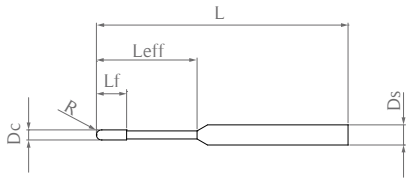
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB3021	3	1.5	2	2.5	21	4	50
HDB3022	3	1.5	2	2.5	22	4	50
HDB3023	3	1.5	2	2.5	23	4	50
HDB3024	3	1.5	2	2.5	24	4	50
HDB3025	3	1.5	2	2.5	25	4	50
HDB3026	3	1.5	2	2.5	26	4	50
HDB3027	3	1.5	2	2.5	27	4	50
HDB3028	3	1.5	2	2.5	28	4	50
HDB3029	3	1.5	2	2.5	29	4	50
HDB3030	3	1.5	2	2.5	30	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB35



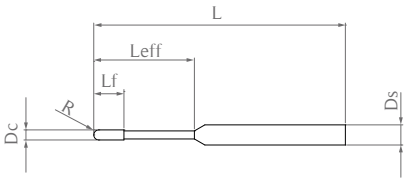
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB3503	3.5	1.75	2	3	3	4	50
HDB3504	3.5	1.75	2	3	4	4	50
HDB3505	3.5	1.75	2	3	5	4	50
HDB3506	3.5	1.75	2	3	6	4	50
HDB3507	3.5	1.75	2	3	7	4	50
HDB3508	3.5	1.75	2	3	8	4	50
HDB3509	3.5	1.75	2	3	9	4	50
HDB3510	3.5	1.75	2	3	10	4	50
HDB3511	3.5	1.75	2	3	11	4	50
HDB3512	3.5	1.75	2	3	12	4	50
HDB3513	3.5	1.75	2	3	13	4	50
HDB3514	3.5	1.75	2	3	14	4	50
HDB3515	3.5	1.75	2	3	15	4	50
HDB3516	3.5	1.75	2	3	16	4	50
HDB3517	3.5	1.75	2	3	17	4	50
HDB3518	3.5	1.75	2	3	18	4	50
HDB3519	3.5	1.75	2	3	19	4	50
HDB3520	3.5	1.75	2	3	20	4	50

HARD MILLING TOOLS

HDB35



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

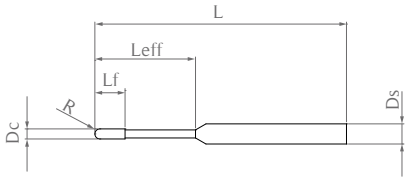
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB3521	3.5	1.75	2	3	21	4	50
HDB3522	3.5	1.75	2	3	22	4	50
HDB3523	3.5	1.75	2	3	23	4	50
HDB3524	3.5	1.75	2	3	24	4	50
HDB3525	3.5	1.75	2	3	25	4	50
HDB3526	3.5	1.75	2	3	26	4	50
HDB3527	3.5	1.75	2	3	27	4	50
HDB3528	3.5	1.75	2	3	28	4	50
HDB3529	3.5	1.75	2	3	29	4	50
HDB3530	3.5	1.75	2	3	30	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB40



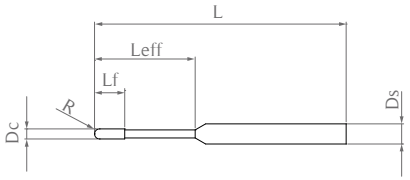
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB4003	4	2	2	3	3	4	50
HDB4004	4	2	2	3	4	4	50
HDB4005	4	2	2	3	5	4	50
HDB4006	4	2	2	3	6	4	50
HDB4007	4	2	2	3	7	4	50
HDB4008	4	2	2	3	8	4	50
HDB4009	4	2	2	3	9	4	50
HDB4010	4	2	2	3	10	4	50
HDB4011	4	2	2	3	11	4	50
HDB4012	4	2	2	3	12	4	50
HDB4013	4	2	2	3	13	4	50
HDB4014	4	2	2	3	14	4	50
HDB4015	4	2	2	3	15	4	50
HDB4016	4	2	2	3	16	4	50
HDB4017	4	2	2	3	17	4	50
HDB4018	4	2	2	3	18	4	50
HDB4019	4	2	2	3	19	4	50
HDB4020	4	2	2	3	20	4	50

HARD MILLING TOOLS

HDB40



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

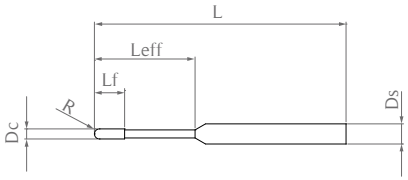
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB4021	4	2	2	3	21	4	50
HDB4022	4	2	2	3	22	4	50
HDB4023	4	2	2	3	23	4	50
HDB4024	4	2	2	3	24	4	50
HDB4025	4	2	2	3	25	4	50
HDB4026	4	2	2	3	26	4	50
HDB4027	4	2	2	3	27	4	50
HDB4028	4	2	2	3	28	4	50
HDB4029	4	2	2	3	29	4	50
HDB4030	4	2	2	3	30	4	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB50



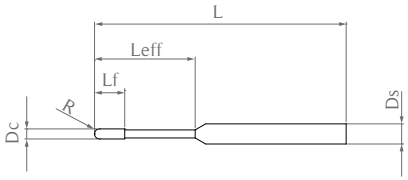
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB5004	5	2.5	2	3.5	4	6	50
HDB5005	5	2.5	2	3.5	5	6	50
HDB5006	5	2.5	2	3.5	6	6	50
HDB5007	5	2.5	2	3.5	7	6	50
HDB5008	5	2.5	2	3.5	8	6	50
HDB5009	5	2.5	2	3.5	9	6	50
HDB5010	5	2.5	2	3.5	10	6	50
HDB5011	5	2.5	2	3.5	11	6	50
HDB5012	5	2.5	2	3.5	12	6	50
HDB5013	5	2.5	2	3.5	13	6	50
HDB5014	5	2.5	2	3.5	14	6	50
HDB5015	5	2.5	2	3.5	15	6	50
HDB5016	5	2.5	2	3.5	16	6	50
HDB5017	5	2.5	2	3.5	17	6	50
HDB5018	5	2.5	2	3.5	18	6	50
HDB5019	5	2.5	2	3.5	19	6	50
HDB5020	5	2.5	2	3.5	20	6	50
HDB5021	5	2.5	2	3.5	21	6	50

HARD MILLING TOOLS

HDB50



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

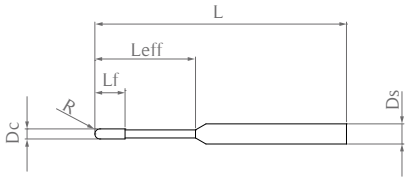
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB5022	5	2.5	2	3.5	22	6	50
HDB5023	5	2.5	2	3.5	23	6	50
HDB5024	5	2.5	2	3.5	24	6	50
HDB5025	5	2.5	2	3.5	25	6	50
HDB5026	5	2.5	2	3.5	26	6	50
HDB5027	5	2.5	2	3.5	27	6	50
HDB5028	5	2.5	2	3.5	28	6	50
HDB5029	5	2.5	2	3.5	29	6	50
HDB5030	5	2.5	2	3.5	30	6	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

HDB60



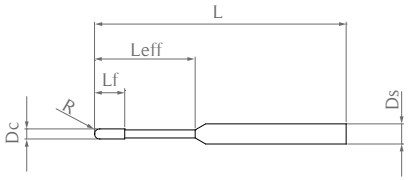
Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB6004	6	3	2	4	4	6	50
HDB6005	6	3	2	4	5	6	50
HDB6006	6	3	2	4	6	6	50
HDB6007	6	3	2	4	7	6	50
HDB6008	6	3	2	4	8	6	50
HDB6009	6	3	2	4	9	6	50
HDB6010	6	3	2	4	10	6	50
HDB6011	6	3	2	4	11	6	50
HDB6012	6	3	2	4	12	6	50
HDB6013	6	3	2	4	13	6	50
HDB6014	6	3	2	4	14	6	50
HDB6015	6	3	2	4	15	6	50
HDB6016	6	3	2	4	16	6	50
HDB6017	6	3	2	4	17	6	50
HDB6018	6	3	2	4	18	6	50
HDB6019	6	3	2	4	19	6	50
HDB6020	6	3	2	4	20	6	50
HDB6021	6	3	2	4	21	6	50

HARD MILLING TOOLS

HDB60



Tolerance:
R: +/-0.005
R profile line form +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Shank Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
HDB6022	6	3	2	4	22	6	50
HDB6023	6	3	2	4	23	6	50
HDB6024	6	3	2	4	24	6	50
HDB6025	6	3	2	4	25	6	50
HDB6026	6	3	2	4	26	6	50
HDB6027	6	3	2	4	27	6	50
HDB6028	6	3	2	4	28	6	50
HDB6029	6	3	2	4	29	6	50
HDB6030	6	3	2	4	30	6	50

Hard Milling
Ball
2 Flute

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45					
			ae	ap	Deff.	fz	S	F
0.2	2	1	0.025	0.012	0.095	0.003	41906	251
0.2	2	2	0.020	0.007	0.074	0.003	38990	234
0.2	2	3	0.015	0.004	0.056	0.003	36965	185
0.3	2	1	0.040	0.017	0.139	0.004	42471	340
0.3	2	2	0.030	0.010	0.108	0.004	39919	279
0.3	2	3	0.025	0.007	0.091	0.003	38677	232
0.4	2	1	0.050	0.032	0.217	0.006	41087	493
0.4	2	2	0.040	0.022	0.182	0.005	38415	384
0.4	2	4	0.020	0.008	0.112	0.004	36965	296
0.5	2	1	0.060	0.030	0.237	0.012	41571	998
0.5	2	2	0.050	0.020	0.196	0.010	40630	813
0.5	2	3	0.045	0.015	0.171	0.008	37338	597
0.5	2	4	0.040	0.010	0.140	0.007	36397	510
0.5	2	6	0.030	0.008	0.125	0.006	34265	411
0.5	2	8	0.020	0.004	0.089	0.005	32175	322
0.6	2	1	0.120	0.060	0.360	0.018	39809	1433
0.6	2	2	0.100	0.050	0.332	0.016	36489	1168
0.6	2	4	0.070	0.021	0.221	0.014	33214	930
0.6	2	6	0.050	0.012	0.168	0.012	28435	682
0.6	2	8	0.050	0.012	0.168	0.010	22748	455
0.6	2	10	0.040	0.007	0.129	0.008	22244	356
0.8	2	2	0.150	0.095	0.518	0.020	39994	1600
0.8	2	4	0.120	0.060	0.421	0.020	36274	1451
0.8	2	6	0.080	0.030	0.304	0.016	36669	1173
0.8	2	8	0.070	0.020	0.250	0.012	30598	734
0.8	2	10	0.050	0.012	0.194	0.010	30294	606
1	2	2	0.260	0.160	0.733	0.040	36920	2954
1	2	4	0.230	0.110	0.626	0.035	34607	2422

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45					
			ae	ap	Deff.	fz	S	F
1	2	6	0.160	0.050	0.436	0.030	33609	2017
1	2	8	0.150	0.045	0.415	0.030	26884	1613
1	2	10	0.120	0.030	0.341	0.022	26137	1150
1	2	12	0.100	0.020	0.280	0.020	25023	1001
1	2	14	0.080	0.016	0.251	0.017	25381	863
1	2	16	0.060	0.012	0.218	0.015	23399	702
1.2	2	2	0.300	0.160	0.816	0.042	35132	2951
1.2	2	4	0.250	0.110	0.693	0.036	34490	2483
1.2	2	6	0.180	0.050	0.480	0.032	33203	2125
1.2	2	8	0.170	0.045	0.456	0.030	27939	1676
1.2	2	10	0.140	0.030	0.375	0.025	27198	1360
1.2	2	12	0.110	0.020	0.307	0.023	22804	1049
1.2	2	14	0.080	0.016	0.275	0.020	23138	926
1.2	2	16	0.060	0.012	0.239	0.017	21338	726
1.4	2	2	0.350	0.180	0.937	0.060	31262	3751
1.4	2	4	0.300	0.140	0.840	0.040	29572	2366
1.4	2	6	0.250	0.110	0.753	0.033	26631	1758
1.4	2	8	0.200	0.088	0.680	0.032	25775	1650
1.4	2	10	0.170	0.065	0.589	0.028	24325	1362
1.4	2	12	0.140	0.042	0.478	0.024	23336	1120
1.4	2	14	0.120	0.032	0.418	0.023	22832	1050
1.4	2	16	0.110	0.028	0.392	0.023	20311	934
1.5	2	2	0.350	0.160	0.926	0.050	30951	3095
1.5	2	4	0.320	0.150	0.900	0.045	30078	2707
1.5	2	6	0.250	0.120	0.814	0.040	29348	2348
1.5	2	8	0.200	0.080	0.674	0.032	25984	1663
1.5	2	10	0.180	0.070	0.633	0.032	22648	1449
1.5	2	12	0.160	0.070	0.633	0.027	21138	1141

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45					
			ae	ap	Deff.	fz	S	F
1.5	2	14	0.150	0.060	0.588	0.025	20586	1029
1.5	2	16	0.110	0.030	0.420	0.020	20473	819
1.6	2	2	0.350	0.160	0.960	0.050	29857	2986
1.6	2	4	0.320	0.150	0.933	0.045	29022	2612
1.6	2	6	0.250	0.120	0.843	0.040	28339	2267
1.6	2	8	0.200	0.080	0.697	0.035	25115	1758
1.6	2	10	0.180	0.070	0.655	0.033	24329	1606
1.6	2	12	0.160	0.070	0.655	0.030	21896	1314
1.6	2	14	0.150	0.060	0.608	0.028	19906	1115
1.6	2	16	0.110	0.030	0.434	0.025	19810	991
1.8	2	2	0.500	0.250	1.245	0.050	29417	2942
1.8	2	4	0.500	0.250	1.245	0.050	29417	2942
1.8	2	6	0.420	0.230	1.202	0.040	28619	2289
1.8	2	8	0.380	0.180	1.080	0.035	28014	1961
1.8	2	10	0.300	0.120	0.898	0.033	23052	1521
1.8	2	12	0.250	0.085	0.764	0.032	22938	1468
1.8	2	14	0.200	0.065	0.672	0.032	21338	1366
1.8	2	16	0.150	0.055	0.620	0.032	20560	1316
2	2	2	0.600	0.320	1.466	0.065	24975	3247
2	2	4	0.600	0.320	1.466	0.065	24975	3247
2	2	6	0.550	0.320	1.466	0.065	23889	3106
2	2	8	0.440	0.220	1.252	0.055	22901	2519
2	2	10	0.380	0.170	1.116	0.055	21412	2355
2	2	12	0.300	0.100	0.872	0.054	20457	2209
2	2	14	0.250	0.100	0.872	0.048	18996	1824
2	2	16	0.230	0.100	0.872	0.032	17535	1122
2	2	18	0.200	0.070	0.735	0.031	16463	1021
2	2	20	0.180	0.060	0.682	0.030	16335	980

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45					
			ae	ap	Deff.	fz	S	F
2.5	2	2	0.700	0.400	1.833	0.080	24324	3892
2.5	2	6	0.700	0.400	1.833	0.080	24324	3892
2.5	2	10	0.540	0.250	1.500	0.070	23355	3270
2.5	2	12	0.450	0.180	1.292	0.060	20945	2513
2.5	2	16	0.350	0.120	1.069	0.050	17878	1788
2.5	2	20	0.300	0.100	0.980	0.040	14627	1170
3	2	6	0.900	0.500	2.236	0.100	21364	4273
3	2	10	0.700	0.350	1.926	0.090	18188	3274
3	2	12	0.600	0.250	1.658	0.080	18244	2919
3	2	16	0.500	0.250	1.658	0.060	17668	2120
3	2	20	0.400	0.150	1.308	0.050	15830	1583
3.5	2	4	0.900	0.400	2.227	0.100	21450	4290
3.5	2	10	0.800	0.400	2.227	0.100	15015	3003
3.5	2	14	0.700	0.300	1.960	0.080	14627	2340
3.5	2	20	0.500	0.150	1.418	0.070	12355	1730
4	2	8	1.100	0.500	2.646	0.120	15648	3756
4	2	12	0.950	0.400	2.400	0.120	14597	3503
4	2	16	0.800	0.340	2.231	0.100	15702	3140
4	2	20	0.750	0.300	2.107	0.080	15114	2418
5	2	10	1.200	0.500	3.000	0.150	12208	3662
5	2	15	1.100	0.450	2.862	0.140	12241	3428
5	2	20	1.000	0.400	2.713	0.120	11739	2817
5	2	25	0.900	0.300	2.375	0.100	12069	2414
6	2	12	1.400	0.500	3.317	0.180	11523	4148
6	2	18	1.200	0.400	2.993	0.150	10639	3192
6	2	25	1.000	0.350	2.812	0.150	10191	3057
6	2	30	0.900	0.300	2.615	0.120	9133	2192

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55					
			ae	ap	Deff.	fz	S	F
0.2	2	1	0.025	0.010	0.087	0.003	40376	242
0.2	2	2	0.020	0.006	0.067	0.002	38037	152
0.2	2	3	0.015	0.003	0.051	0.001	37500	75
0.3	2	1	0.040	0.014	0.127	0.004	42744	342
0.3	2	2	0.030	0.008	0.098	0.004	35703	286
0.3	2	3	0.025	0.006	0.082	0.003	36698	220
0.4	2	1	0.050	0.026	0.199	0.006	40084	481
0.4	2	2	0.040	0.018	0.167	0.005	36342	363
0.4	2	4	0.020	0.007	0.102	0.004	28125	225
0.5	2	1	0.060	0.028	0.228	0.010	40511	810
0.5	2	2	0.050	0.023	0.210	0.010	37928	759
0.5	2	3	0.045	0.020	0.195	0.008	32661	523
0.5	2	4	0.040	0.013	0.160	0.007	31783	445
0.5	2	6	0.030	0.009	0.131	0.006	29064	349
0.5	2	8	0.020	0.007	0.114	0.005	25114	251
0.6	2	1	0.120	0.050	0.330	0.015	38585	1158
0.6	2	2	0.100	0.039	0.294	0.014	36823	1031
0.6	2	4	0.060	0.018	0.202	0.012	36174	868
0.6	2	6	0.040	0.010	0.153	0.010	29167	583
0.6	2	8	0.038	0.010	0.153	0.008	25000	400
0.6	2	10	0.030	0.006	0.114	0.008	19493	312
0.8	2	2	0.160	0.079	0.478	0.020	39321	1573
0.8	2	4	0.120	0.050	0.385	0.017	39656	1348
0.8	2	6	0.085	0.028	0.292	0.016	34960	1119
0.8	2	8	0.060	0.013	0.204	0.011	29688	653
0.8	2	10	0.040	0.009	0.167	0.010	28625	573
1	2	2	0.260	0.132	0.677	0.035	35282	2470
1	2	4	0.220	0.088	0.567	0.032	34849	2230

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55					
			ae	ap	Deff.	fz	S	F
1	2	6	0.140	0.039	0.385	0.028	29795	1668
1	2	8	0.130	0.033	0.357	0.022	29416	1294
1	2	10	0.105	0.022	0.293	0.019	24968	949
1	2	12	0.090	0.017	0.255	0.018	18750	675
1	2	14	0.080	0.013	0.228	0.015	19533	586
1	2	16	0.060	0.010	0.198	0.012	20909	502
1.2	2	2	0.290	0.132	0.751	0.035	33928	2375
1.2	2	4	0.240	0.088	0.626	0.032	33087	2118
1.2	2	6	0.140	0.039	0.423	0.028	30120	1687
1.2	2	8	0.120	0.033	0.392	0.022	25966	1142
1.2	2	10	0.100	0.022	0.322	0.019	25718	977
1.2	2	12	0.085	0.017	0.279	0.018	22790	820
1.2	2	14	0.075	0.013	0.250	0.015	21628	649
1.2	2	16	0.060	0.010	0.217	0.012	19071	458
1.4	2	2	0.320	0.132	0.818	0.040	33084	2647
1.4	2	4	0.280	0.099	0.718	0.038	31059	2360
1.4	2	6	0.260	0.088	0.680	0.032	25775	1650
1.4	2	8	0.230	0.077	0.638	0.030	22451	1347
1.4	2	10	0.150	0.035	0.438	0.026	20342	1058
1.4	2	12	0.140	0.035	0.438	0.023	21068	969
1.4	2	14	0.120	0.028	0.389	0.021	18851	792
1.4	2	16	0.100	0.022	0.348	0.020	17376	695
1.5	2	2	0.330	0.132	0.850	0.045	29978	2698
1.5	2	4	0.320	0.132	0.850	0.043	28104	2417
1.5	2	6	0.280	0.132	0.850	0.036	26231	1889
1.5	2	8	0.200	0.066	0.615	0.030	25880	1553
1.5	2	10	0.180	0.066	0.615	0.030	20704	1242
1.5	2	12	0.160	0.055	0.564	0.025	16945	847

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55					
			ae	ap	Deff.	fz	S	F
1.5	2	14	0.140	0.050	0.536	0.023	16045	738
1.5	2	16	0.100	0.028	0.402	0.020	16617	665
1.6	2	2	0.380	0.165	0.973	0.045	26180	2356
1.6	2	4	0.360	0.165	0.973	0.043	26180	2251
1.6	2	6	0.320	0.154	0.944	0.038	25308	1923
1.6	2	8	0.290	0.143	0.913	0.033	24420	1612
1.6	2	10	0.200	0.099	0.771	0.032	24785	1586
1.6	2	12	0.190	0.066	0.636	0.029	22520	1306
1.6	2	14	0.150	0.050	0.554	0.026	20117	1046
1.6	2	16	0.110	0.040	0.497	0.023	17936	825
1.8	2	2	0.400	0.176	1.069	0.043	26806	2305
1.8	2	4	0.400	0.176	1.069	0.043	26806	2305
1.8	2	6	0.360	0.154	1.007	0.038	26883	2043
1.8	2	8	0.340	0.143	0.974	0.035	24534	1717
1.8	2	10	0.260	0.099	0.821	0.032	23282	1490
1.8	2	12	0.210	0.066	0.677	0.030	21181	1271
1.8	2	14	0.180	0.050	0.589	0.030	20556	1233
1.8	2	16	0.150	0.044	0.556	0.026	20050	1043
2	2	2	0.520	0.264	1.354	0.062	22345	2771
2	2	4	0.520	0.264	1.354	0.062	22345	2771
2	2	6	0.500	0.264	1.354	0.057	20228	2306
2	2	8	0.420	0.187	1.165	0.052	20511	2133
2	2	10	0.350	0.165	1.100	0.045	17363	1563
2	2	12	0.220	0.077	0.770	0.038	18622	1415
2	2	14	0.200	0.077	0.770	0.035	14897	1043
2	2	16	0.180	0.066	0.715	0.030	15599	936
2	2	18	0.150	0.055	0.654	0.027	15579	841
2	2	20	0.120	0.044	0.587	0.024	17369	834

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55					
			ae	ap	Deff.	fz	S	F
2.5	2	2	0.650	0.330	1.692	0.070	19758	2766
2.5	2	6	0.650	0.330	1.692	0.070	19758	2766
2.5	2	10	0.540	0.242	1.478	0.065	20033	2604
2.5	2	12	0.450	0.176	1.279	0.053	19421	2059
2.5	2	16	0.350	0.099	0.975	0.048	16984	1630
2.5	2	20	0.300	0.077	0.864	0.040	14009	1121
3	2	6	0.780	0.396	2.031	0.086	17249	2967
3	2	10	0.650	0.275	1.731	0.086	16555	2847
3	2	12	0.550	0.209	1.528	0.075	15637	2346
3	2	16	0.500	0.209	1.528	0.057	13552	1545
3	2	20	0.400	0.121	1.180	0.048	12141	1165
3.5	2	4	0.850	0.418	2.270	0.086	16835	2896
3.5	2	10	0.700	0.286	1.918	0.086	15778	2714
3.5	2	14	0.600	0.220	1.699	0.077	12184	1876
3.5	2	20	0.400	0.143	1.386	0.063	12640	1593
4	2	8	0.950	0.418	2.447	0.100	14965	2993
4	2	12	0.800	0.330	2.201	0.100	14469	2894
4	2	16	0.700	0.275	2.024	0.085	14946	2541
4	2	20	0.600	0.275	2.024	0.072	13688	1971
5	2	10	1.100	0.418	2.768	0.130	11506	2992
5	2	15	0.900	0.330	2.483	0.110	12570	2766
5	2	20	0.700	0.275	2.280	0.086	12014	2066
5	2	25	0.600	0.220	2.051	0.075	10870	1630
6	2	12	1.200	0.418	3.055	0.160	9382	3002
6	2	18	1.100	0.418	3.055	0.140	9382	2627
6	2	25	0.800	0.308	2.648	0.110	9020	1984
6	2	30	0.700	0.242	2.361	0.085	8768	

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65					
			ae	ap	Deff.	fz	S	F
0.2	2	1	0.025	0.009	0.083	0.002	42247	169
0.2	2	2	0.020	0.005	0.064	0.002	29879	120
0.2	2	3	0.015	0.003	0.049	0.001	32750	66
0.3	2	1	0.040	0.013	0.121	0.004	42099	337
0.3	2	2	0.030	0.008	0.094	0.004	39437	276
0.3	2	3	0.025	0.005	0.079	0.003	36431	219
0.4	2	1	0.050	0.024	0.190	0.006	38554	463
0.4	2	2	0.040	0.017	0.159	0.005	36032	360
0.4	2	4	0.020	0.006	0.097	0.004	29475	236
0.5	2	1	0.060	0.025	0.218	0.010	36531	731
0.5	2	2	0.050	0.021	0.201	0.010	34929	699
0.5	2	3	0.045	0.018	0.186	0.008	25643	410
0.5	2	4	0.040	0.012	0.153	0.007	27051	379
0.5	2	6	0.030	0.008	0.125	0.006	22843	274
0.5	2	8	0.020	0.006	0.109	0.005	17549	175
0.6	2	1	0.120	0.045	0.316	0.014	39296	1100
0.6	2	2	0.100	0.035	0.281	0.012	38500	924
0.6	2	4	0.060	0.016	0.193	0.009	37888	682
0.6	2	6	0.040	0.009	0.146	0.009	30567	550
0.6	2	8	0.038	0.009	0.146	0.006	26200	314
0.6	2	10	0.030	0.005	0.109	0.006	23355	280
0.8	2	2	0.160	0.072	0.458	0.018	41731	1502
0.8	2	4	0.120	0.045	0.369	0.016	39739	1272
0.8	2	6	0.085	0.025	0.278	0.016	34319	1098
0.8	2	8	0.060	0.012	0.194	0.010	29475	590
0.8	2	10	0.040	0.008	0.159	0.010	26006	520
1	2	2	0.260	0.120	0.650	0.030	36751	2205
1	2	4	0.220	0.080	0.543	0.030	35217	2113

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65					
			ae	ap	Deff.	fz	S	F
1	2	6	0.140	0.035	0.368	0.022	31192	1372
1	2	8	0.130	0.030	0.341	0.016	30804	986
1	2	10	0.105	0.020	0.280	0.016	26160	837
1	2	12	0.090	0.015	0.243	0.014	19650	550
1	2	14	0.080	0.012	0.218	0.012	20474	491
1	2	16	0.060	0.009	0.189	0.009	21919	395
1.2	2	2	0.290	0.120	0.720	0.030	35386	2123
1.2	2	4	0.240	0.080	0.599	0.030	34578	2075
1.2	2	6	0.140	0.035	0.404	0.022	31543	1388
1.2	2	8	0.120	0.030	0.375	0.018	27198	979
1.2	2	10	0.100	0.020	0.307	0.016	26950	862
1.2	2	12	0.085	0.015	0.267	0.014	23887	669
1.2	2	14	0.075	0.012	0.239	0.012	22672	544
1.2	2	16	0.060	0.009	0.207	0.010	19994	400
1.4	2	2	0.320	0.120	0.784	0.036	32504	2340
1.4	2	4	0.280	0.090	0.687	0.036	30144	2170
1.4	2	6	0.260	0.080	0.650	0.030	26951	1617
1.4	2	8	0.230	0.070	0.610	0.027	23484	1268
1.4	2	10	0.150	0.032	0.418	0.025	19027	951
1.4	2	12	0.140	0.032	0.418	0.023	17505	805
1.4	2	14	0.120	0.025	0.371	0.020	16318	653
1.4	2	16	0.100	0.020	0.332	0.020	15336	613
1.5	2	2	0.330	0.120	0.814	0.040	31304	2504
1.5	2	4	0.320	0.120	0.814	0.040	29348	2348
1.5	2	6	0.280	0.120	0.814	0.033	27391	1808
1.5	2	8	0.200	0.060	0.588	0.027	27087	1463
1.5	2	10	0.180	0.060	0.588	0.027	21669	1170
1.5	2	12	0.160	0.050	0.539	0.023	17742	816

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65					
			ae	ap	Deff.	fz	S	F
1.5	2	14	0.140	0.045	0.512	0.020	16802	672
1.5	2	16	0.100	0.025	0.384	0.020	14926	597
1.6	2	2	0.380	0.150	0.933	0.040	27315	2185
1.6	2	4	0.360	0.150	0.933	0.040	27315	2185
1.6	2	6	0.320	0.140	0.904	0.035	26416	1849
1.6	2	8	0.290	0.130	0.874	0.033	23677	1563
1.6	2	10	0.200	0.090	0.737	0.032	23757	1520
1.6	2	12	0.190	0.060	0.608	0.028	20954	1173
1.6	2	14	0.150	0.045	0.529	0.025	18059	903
1.6	2	16	0.110	0.036	0.475	0.022	16777	738
1.8	2	2	0.400	0.160	1.024	0.040	27977	2238
1.8	2	4	0.400	0.160	1.024	0.040	27977	2238
1.8	2	6	0.360	0.140	0.964	0.035	28076	1965
1.8	2	8	0.340	0.130	0.932	0.035	22214	1555
1.8	2	10	0.260	0.090	0.785	0.030	24354	1461
1.8	2	12	0.210	0.060	0.646	0.030	19713	1183
1.8	2	14	0.180	0.045	0.562	0.028	19832	1111
1.8	2	16	0.150	0.040	0.531	0.025	18004	900
2	2	2	0.520	0.240	1.300	0.060	21561	2587
2	2	4	0.520	0.240	1.300	0.060	21561	2587
2	2	6	0.500	0.240	1.300	0.055	20091	2210
2	2	8	0.420	0.170	1.116	0.050	19984	1998
2	2	10	0.350	0.150	1.054	0.040	18137	1451
2	2	12	0.220	0.070	0.735	0.035	19495	1365
2	2	14	0.200	0.070	0.735	0.032	15163	970
2	2	16	0.180	0.060	0.682	0.028	15402	863
2	2	18	0.150	0.050	0.624	0.025	16319	816
2	2	20	0.120	0.040	0.560	0.022	17061	751

HARD MILLING TOOLS

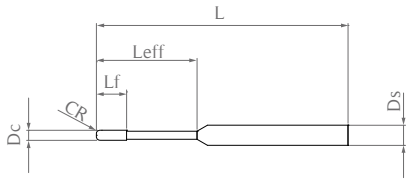
Ball nose cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65					
			ae	ap	Deff.	fz	S	F
2.5	2	2	0.650	0.300	1.625	0.065	20581	2675
2.5	2	6	0.650	0.300	1.625	0.065	20581	2675
2.5	2	10	0.540	0.220	1.416	0.062	20235	2509
2.5	2	12	0.450	0.160	1.224	0.050	19518	1952
2.5	2	16	0.350	0.090	0.931	0.045	17095	1539
2.5	2	20	0.300	0.070	0.825	0.040	12741	1019
3	2	6	0.780	0.360	1.950	0.080	17967	2875
3	2	10	0.650	0.250	1.658	0.080	17284	2765
3	2	12	0.550	0.190	1.461	0.072	15255	2197
3	2	16	0.500	0.190	1.461	0.055	13076	1438
3	2	20	0.400	0.110	1.128	0.047	11297	1062
3.5	2	4	0.850	0.380	2.178	0.080	17549	2808
3.5	2	10	0.700	0.260	1.836	0.080	16482	2637
3.5	2	14	0.600	0.200	1.625	0.075	11760	1764
3.5	2	20	0.400	0.130	1.324	0.060	12029	1443
4	2	8	0.950	0.380	2.346	0.100	14256	2851
4	2	12	0.800	0.300	2.107	0.100	13905	2781
4	2	16	0.700	0.250	1.936	0.080	14801	2368
4	2	20	0.600	0.250	1.936	0.070	13157	1842
5	2	10	1.100	0.380	2.650	0.120	12018	2884
5	2	15	0.900	0.300	2.375	0.100	12740	2548
5	2	20	0.700	0.250	2.179	0.080	12421	1987
5	2	25	0.600	0.200	1.960	0.070	10564	1479
6	2	12	1.200	0.380	2.923	0.150	9807	2942
6	2	18	1.100	0.380	2.923	0.130	9807	2550
6	2	25	0.800	0.280	2.531	0.100	9437	1887
6	2	30	0.700	0.220	2.255	0.080	9179	1469

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC02R0.02



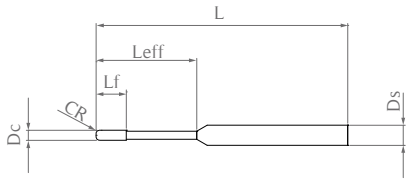
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC02005R0.02	0.2	2	0.1	0.5	0.02	4	50
HDC0201R0.02	0.2	2	0.1	1	0.02	4	50
HDC02015R0.02	0.2	2	0.1	1.5	0.02	4	50
HDC0202R0.02	0.2	2	0.1	2	0.02	4	50
HDC02025R0.02	0.2	2	0.1	2.5	0.02	4	50
HDC0203R0.02	0.2	2	0.1	3	0.02	4	50
HDC02035R0.02	0.2	2	0.1	3.5	0.02	4	50
HDC0204R0.02	0.2	2	0.1	4	0.02	4	50

HARD MILLING TOOLS

HDC03R0.02



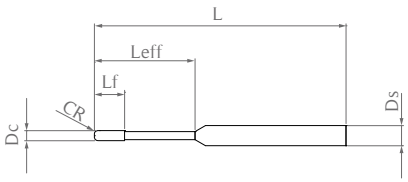
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC03005R0.02	0.3	2	0.1	0.5	0.02	4	50
HDC0301R0.02	0.3	2	0.1	1	0.02	4	50
HDC03015R0.02	0.3	2	0.1	1.5	0.02	4	50
HDC0302R0.02	0.3	2	0.1	2	0.02	4	50
HDC03025R0.02	0.3	2	0.1	2.5	0.02	4	50
HDC0303R0.02	0.3	2	0.1	3	0.02	4	50
HDC03035R0.02	0.3	2	0.1	3.5	0.02	4	50
HDC0304R0.02	0.3	2	0.1	4	0.02	4	50
HDC03045R0.02	0.3	2	0.1	4.5	0.02	4	50
HDC0305R0.02	0.3	2	0.1	5	0.02	4	50

HARD MILLING TOOLS

HDC04R0.02



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

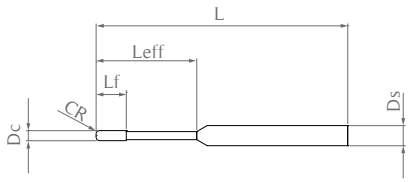
Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC04005R0.02	0.4	2	0.2	0.5	0.02	4	50
HDC0401R0.02	0.4	2	0.2	1	0.02	4	50
HDC04015R0.02	0.4	2	0.2	1.5	0.02	4	50
HDC0402R0.02	0.4	2	0.2	2	0.02	4	50
HDC04025R0.02	0.4	2	0.2	2.5	0.02	4	50
HDC0403R0.02	0.4	2	0.2	3	0.02	4	50
HDC04035R0.02	0.4	2	0.2	3.5	0.02	4	50
HDC0404R0.02	0.4	2	0.2	4	0.02	4	50
HDC04045R0.02	0.4	2	0.2	4.5	0.02	4	50
HDC0405R0.02	0.4	2	0.2	5	0.02	4	50
HDC04055R0.02	0.4	2	0.2	5.5	0.02	4	50
HDC0406R0.02	0.4	2	0.2	6	0.02	4	50

HARD MILLING TOOLS

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC05R0.02



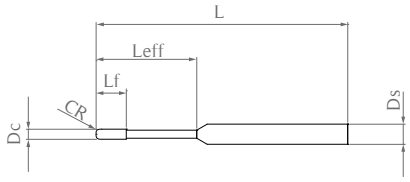
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC05005R0.02	0.5	2	0.2	0.5	0.02	4	50
HDC0501R0.02	0.5	2	0.2	1	0.02	4	50
HDC05015R0.02	0.5	2	0.2	1.5	0.02	4	50
HDC0502R0.02	0.5	2	0.2	2	0.02	4	50
HDC05025R0.02	0.5	2	0.2	2.5	0.02	4	50
HDC0503R0.02	0.5	2	0.2	3	0.02	4	50
HDC05035R0.02	0.5	2	0.2	3.5	0.02	4	50
HDC0504R0.02	0.5	2	0.2	4	0.02	4	50
HDC05045R0.02	0.5	2	0.2	4.5	0.02	4	50
HDC0505R0.02	0.5	2	0.2	5	0.02	4	50
HDC05055R0.02	0.5	2	0.2	5.5	0.02	4	50
HDC0506R0.02	0.5	2	0.2	6	0.02	4	50
HDC05065R0.02	0.5	2	0.2	6.5	0.02	4	50
HDC0507R0.02	0.5	2	0.2	7	0.02	4	50
HDC05075R0.02	0.5	2	0.2	7.5	0.02	4	50
HDC0508R0.02	0.5	2	0.2	8	0.02	4	50

HARD MILLING TOOLS

HDC05R0.05



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

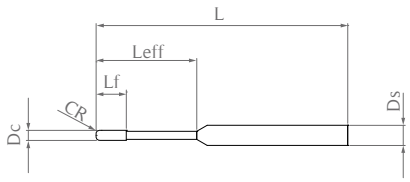
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC05005R0.05	0.5	2	0.2	0.5	0.05	4	50
HDC0501R0.05	0.5	2	0.2	1	0.05	4	50
HDC05015R0.05	0.5	2	0.2	1.5	0.05	4	50
HDC0502R0.05	0.5	2	0.2	2	0.05	4	50
HDC05025R0.05	0.5	2	0.2	2.5	0.05	4	50
HDC0503R0.05	0.5	2	0.2	3	0.05	4	50
HDC05035R0.05	0.5	2	0.2	3.5	0.05	4	50
HDC0504R0.05	0.5	2	0.2	4	0.05	4	50
HDC05045R0.05	0.5	2	0.2	4.5	0.05	4	50
HDC0505R0.05	0.5	2	0.2	5	0.05	4	50
HDC05055R0.05	0.5	2	0.2	5.5	0.05	4	50
HDC0506R0.05	0.5	2	0.2	6	0.05	4	50
HDC05065R0.05	0.5	2	0.2	6.5	0.05	4	50
HDC0507R0.05	0.5	2	0.2	7	0.05	4	50
HDC05075R0.05	0.5	2	0.2	7.5	0.05	4	50
HDC0508R0.05	0.5	2	0.2	8	0.05	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC06R0.02



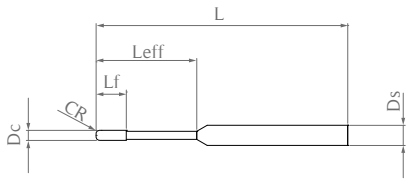
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC06005R0.02	0.6	2	0.3	0.5	0.02	4	50
HDC0601R0.02	0.6	2	0.3	1	0.02	4	50
HDC06015R0.02	0.6	2	0.3	1.5	0.02	4	50
HDC0602R0.02	0.6	2	0.3	2	0.02	4	50
HDC06025R0.02	0.6	2	0.3	2.5	0.02	4	50
HDC0603R0.02	0.6	2	0.3	3	0.02	4	50
HDC06035R0.02	0.6	2	0.3	3.5	0.02	4	50
HDC0604R0.02	0.6	2	0.3	4	0.02	4	50
HDC06045R0.02	0.6	2	0.3	4.5	0.02	4	50
HDC0605R0.02	0.6	2	0.3	5	0.02	4	50
HDC06055R0.02	0.6	2	0.3	5.5	0.02	4	50
HDC0606R0.02	0.6	2	0.3	6	0.02	4	50
HDC06065R0.02	0.6	2	0.3	6.5	0.02	4	50
HDC0607R0.02	0.6	2	0.3	7	0.02	4	50
HDC06075R0.02	0.6	2	0.3	7.5	0.02	4	50
HDC0608R0.02	0.6	2	0.3	8	0.02	4	50
HDC06085R0.02	0.6	2	0.3	8.5	0.02	4	50
HDC0609R0.02	0.6	2	0.3	9	0.02	4	50

HARD MILLING TOOLS

HDC06R0.02



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

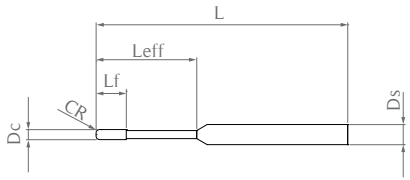
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC06095R0.02	0.6	2	0.3	9.5	0.02	4	50
HDC0610R0.02	0.6	2	0.3	10	0.02	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC06R0.05



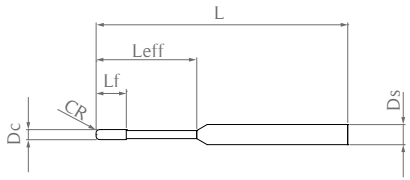
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC06005R0.05	0.6	2	0.3	0.5	0.05	4	50
HDC0601R0.05	0.6	2	0.3	1	0.05	4	50
HDC06015R0.05	0.6	2	0.3	1.5	0.05	4	50
HDC0602R0.05	0.6	2	0.3	2	0.05	4	50
HDC06025R0.05	0.6	2	0.3	2.5	0.05	4	50
HDC0603R0.05	0.6	2	0.3	3	0.05	4	50
HDC06035R0.05	0.6	2	0.3	3.5	0.05	4	50
HDC0604R0.05	0.6	2	0.3	4	0.05	4	50
HDC06045R0.05	0.6	2	0.3	4.5	0.05	4	50
HDC0605R0.05	0.6	2	0.3	5	0.05	4	50
HDC06055R0.05	0.6	2	0.3	5.5	0.05	4	50
HDC0606R0.05	0.6	2	0.3	6	0.05	4	50
HDC06065R0.05	0.6	2	0.3	6.5	0.05	4	50
HDC0607R0.05	0.6	2	0.3	7	0.05	4	50
HDC06075R0.05	0.6	2	0.3	7.5	0.05	4	50
HDC0608R0.05	0.6	2	0.3	8	0.05	4	50
HDC06085R0.05	0.6	2	0.3	8.5	0.05	4	50
HDC0609R0.05	0.6	2	0.3	9	0.05	4	50

HARD MILLING TOOLS

HDC06R0.05



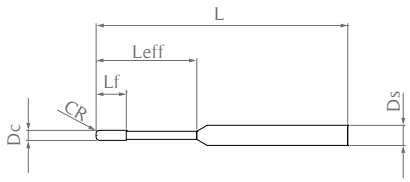
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC06095R0.05	0.6	2	0.3	9.5	0.05	4	50
HDC0610R0.05	0.6	2	0.3	10	0.05	4	50

HARD MILLING TOOLS

HDC08R0.05



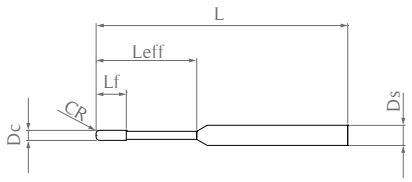
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC0801R0.05	0.8	2	0.4	1	0.05	4	50
HDC0802R0.05	0.8	2	0.4	2	0.05	4	50
HDC0803R0.05	0.8	2	0.4	3	0.05	4	50
HDC0804R0.05	0.8	2	0.4	4	0.05	4	50
HDC0805R0.05	0.8	2	0.4	5	0.05	4	50
HDC0806R0.05	0.8	2	0.4	6	0.05	4	50
HDC0807R0.05	0.8	2	0.4	7	0.05	4	50
HDC0808R0.05	0.8	2	0.4	8	0.05	4	50
HDC0809R0.05	0.8	2	0.4	9	0.05	4	50
HDC0810R0.05	0.8	2	0.4	10	0.05	4	50

HARD MILLING TOOLS

HDC08R0.1



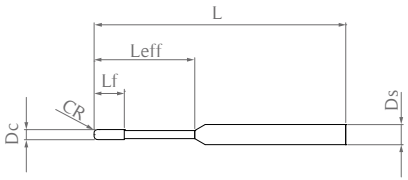
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC0801R0.1	0.8	2	0.4	1	0.1	4	50
HDC0802R0.1	0.8	2	0.4	2	0.1	4	50
HDC0803R0.1	0.8	2	0.4	3	0.1	4	50
HDC0804R0.1	0.8	2	0.4	4	0.1	4	50
HDC0805R0.1	0.8	2	0.4	5	0.1	4	50
HDC0806R0.1	0.8	2	0.4	6	0.1	4	50
HDC0807R0.1	0.8	2	0.4	7	0.1	4	50
HDC0808R0.1	0.8	2	0.4	8	0.1	4	50
HDC0809R0.1	0.8	2	0.4	9	0.1	4	50
HDC0810R0.1	0.8	2	0.4	10	0.1	4	50

HARD MILLING TOOLS

HDC10R0.1



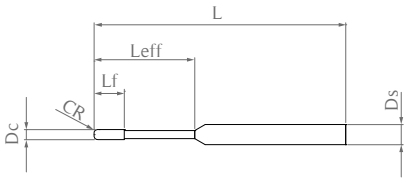
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1001R0.1	1	2	0.5	1	0.1	4	50
HDC1002R0.1	1	2	0.5	2	0.1	4	50
HDC1003R0.1	1	2	0.5	3	0.1	4	50
HDC1004R0.1	1	2	0.5	4	0.1	4	50
HDC1005R0.1	1	2	0.5	5	0.1	4	50
HDC1006R0.1	1	2	0.5	6	0.1	4	50
HDC1007R0.1	1	2	0.5	7	0.1	4	50
HDC1008R0.1	1	2	0.5	8	0.1	4	50
HDC1009R0.1	1	2	0.5	9	0.1	4	50
HDC1010R0.1	1	2	0.5	10	0.1	4	50
HDC1011R0.1	1	2	0.5	11	0.1	4	50
HDC1012R0.1	1	2	0.5	12	0.1	4	50
HDC1013R0.1	1	2	0.5	13	0.1	4	50
HDC1014R0.1	1	2	0.5	14	0.1	4	50
HDC1015R0.1	1	2	0.5	15	0.1	4	50
HDC1016R0.1	1	2	0.5	16	0.1	4	50

HARD MILLING TOOLS

HDC10R0.2



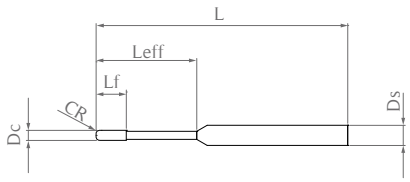
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1001R0.2	1	2	0.5	1	0.2	4	50
HDC1002R0.2	1	2	0.5	2	0.2	4	50
HDC1003R0.2	1	2	0.5	3	0.2	4	50
HDC1004R0.2	1	2	0.5	4	0.2	4	50
HDC1005R0.2	1	2	0.5	5	0.2	4	50
HDC1006R0.2	1	2	0.5	6	0.2	4	50
HDC1007R0.2	1	2	0.5	7	0.2	4	50
HDC1008R0.2	1	2	0.5	8	0.2	4	50
HDC1009R0.2	1	2	0.5	9	0.2	4	50
HDC1010R0.2	1	2	0.5	10	0.2	4	50
HDC1011R0.2	1	2	0.5	11	0.2	4	50
HDC1012R0.2	1	2	0.5	12	0.2	4	50
HDC1013R0.2	1	2	0.5	13	0.2	4	50
HDC1014R0.2	1	2	0.5	14	0.2	4	50
HDC1015R0.2	1	2	0.5	15	0.2	4	50
HDC1016R0.2	1	2	0.5	16	0.2	4	50

HARD MILLING TOOLS

HDC12R0.1



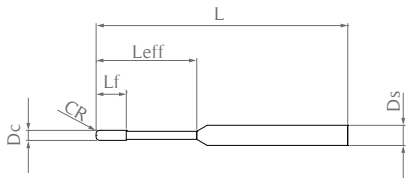
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1201R0.1	1.2	2	0.6	1	0.1	4	50
HDC1202R0.1	1.2	2	0.6	2	0.1	4	50
HDC1203R0.1	1.2	2	0.6	3	0.1	4	50
HDC1204R0.1	1.2	2	0.6	4	0.1	4	50
HDC1205R0.1	1.2	2	0.6	5	0.1	4	50
HDC1206R0.1	1.2	2	0.6	6	0.1	4	50
HDC1207R0.1	1.2	2	0.6	7	0.1	4	50
HDC1208R0.1	1.2	2	0.6	8	0.1	4	50
HDC1209R0.1	1.2	2	0.6	9	0.1	4	50
HDC1210R0.1	1.2	2	0.6	10	0.1	4	50
HDC1211R0.1	1.2	2	0.6	11	0.1	4	50
HDC1212R0.1	1.2	2	0.6	12	0.1	4	50
HDC1213R0.1	1.2	2	0.6	13	0.1	4	50
HDC1214R0.1	1.2	2	0.6	14	0.1	4	50
HDC1215R0.1	1.2	2	0.6	15	0.1	4	50
HDC1216R0.1	1.2	2	0.6	16	0.1	4	50

HARD MILLING TOOLS

HDC12R0.2



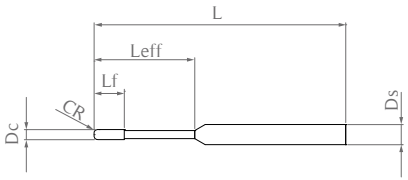
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1201R0.2	1.2	2	0.6	1	0.2	4	50
HDC1202R0.2	1.2	2	0.6	2	0.2	4	50
HDC1203R0.2	1.2	2	0.6	3	0.2	4	50
HDC1204R0.2	1.2	2	0.6	4	0.2	4	50
HDC1205R0.2	1.2	2	0.6	5	0.2	4	50
HDC1206R0.2	1.2	2	0.6	6	0.2	4	50
HDC1207R0.2	1.2	2	0.6	7	0.2	4	50
HDC1208R0.2	1.2	2	0.6	8	0.2	4	50
HDC1209R0.2	1.2	2	0.6	9	0.2	4	50
HDC1210R0.2	1.2	2	0.6	10	0.2	4	50
HDC1211R0.2	1.2	2	0.6	11	0.2	4	50
HDC1212R0.2	1.2	2	0.6	12	0.2	4	50
HDC1213R0.2	1.2	2	0.6	13	0.2	4	50
HDC1214R0.2	1.2	2	0.6	14	0.2	4	50
HDC1215R0.2	1.2	2	0.6	15	0.2	4	50
HDC1216R0.2	1.2	2	0.6	16	0.2	4	50

HARD MILLING TOOLS

HDC14R0.1



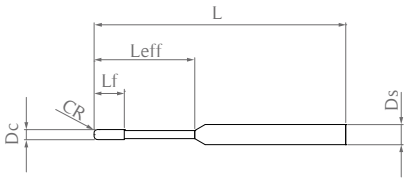
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1401R0.1	1.4	2	0.7	1	0.1	4	50
HDC1402R0.1	1.4	2	0.7	2	0.1	4	50
HDC1403R0.1	1.4	2	0.7	3	0.1	4	50
HDC1404R0.1	1.4	2	0.7	4	0.1	4	50
HDC1405R0.1	1.4	2	0.7	5	0.1	4	50
HDC1406R0.1	1.4	2	0.7	6	0.1	4	50
HDC1407R0.1	1.4	2	0.7	7	0.1	4	50
HDC1408R0.1	1.4	2	0.7	8	0.1	4	50
HDC1409R0.1	1.4	2	0.7	9	0.1	4	50
HDC1410R0.1	1.4	2	0.7	10	0.1	4	50
HDC1411R0.1	1.4	2	0.7	11	0.1	4	50
HDC1412R0.1	1.4	2	0.7	12	0.1	4	50
HDC1413R0.1	1.4	2	0.7	13	0.1	4	50
HDC1414R0.1	1.4	2	0.7	14	0.1	4	50
HDC1415R0.1	1.4	2	0.7	15	0.1	4	50
HDC1416R0.1	1.4	2	0.7	16	0.1	4	50

HARD MILLING TOOLS

HDC14R0.2



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

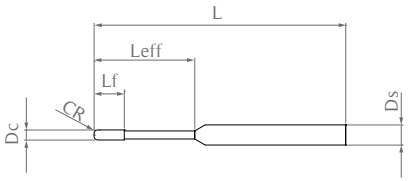
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1401R0.2	1.4	2	0.7	1	0.2	4	50
HDC1402R0.2	1.4	2	0.7	2	0.2	4	50
HDC1403R0.2	1.4	2	0.7	3	0.2	4	50
HDC1404R0.2	1.4	2	0.7	4	0.2	4	50
HDC1405R0.2	1.4	2	0.7	5	0.2	4	50
HDC1406R0.2	1.4	2	0.7	6	0.2	4	50
HDC1407R0.2	1.4	2	0.7	7	0.2	4	50
HDC1408R0.2	1.4	2	0.7	8	0.2	4	50
HDC1409R0.2	1.4	2	0.7	9	0.2	4	50
HDC1410R0.2	1.4	2	0.7	10	0.2	4	50
HDC1411R0.2	1.4	2	0.7	11	0.2	4	50
HDC1412R0.2	1.4	2	0.7	12	0.2	4	50
HDC1413R0.2	1.4	2	0.7	13	0.2	4	50
HDC1414R0.2	1.4	2	0.7	14	0.2	4	50
HDC1415R0.2	1.4	2	0.7	15	0.2	4	50
HDC1416R0.2	1.4	2	0.7	16	0.2	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC15R0.1



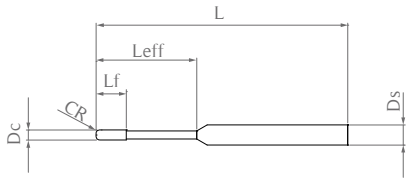
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1501R0.1	1.5	2	0.8	1	0.1	4	50
HDC1502R0.1	1.5	2	0.8	2	0.1	4	50
HDC1503R0.1	1.5	2	0.8	3	0.1	4	50
HDC1504R0.1	1.5	2	0.8	4	0.1	4	50
HDC1505R0.1	1.5	2	0.8	5	0.1	4	50
HDC1506R0.1	1.5	2	0.8	6	0.1	4	50
HDC1507R0.1	1.5	2	0.8	7	0.1	4	50
HDC1508R0.1	1.5	2	0.8	8	0.1	4	50
HDC1509R0.1	1.5	2	0.8	9	0.1	4	50
HDC1510R0.1	1.5	2	0.8	10	0.1	4	50
HDC1511R0.1	1.5	2	0.8	11	0.1	4	50
HDC1512R0.1	1.5	2	0.8	12	0.1	4	50
HDC1513R0.1	1.5	2	0.8	13	0.1	4	50
HDC1514R0.1	1.5	2	0.8	14	0.1	4	50
HDC1515R0.1	1.5	2	0.8	15	0.1	4	50
HDC1516R0.1	1.5	2	0.8	16	0.1	4	50

HARD MILLING TOOLS

HDC15R0.2



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

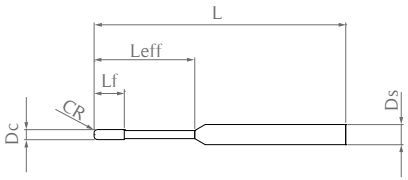
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1501R0.2	1.5	2	0.8	1	0.2	4	50
HDC1502R0.2	1.5	2	0.8	2	0.2	4	50
HDC1503R0.2	1.5	2	0.8	3	0.2	4	50
HDC1504R0.2	1.5	2	0.8	4	0.2	4	50
HDC1505R0.2	1.5	2	0.8	5	0.2	4	50
HDC1506R0.2	1.5	2	0.8	6	0.2	4	50
HDC1507R0.2	1.5	2	0.8	7	0.2	4	50
HDC1508R0.2	1.5	2	0.8	8	0.2	4	50
HDC1509R0.2	1.5	2	0.8	9	0.2	4	50
HDC1510R0.2	1.5	2	0.8	10	0.2	4	50
HDC1511R0.2	1.5	2	0.8	11	0.2	4	50
HDC1512R0.2	1.5	2	0.8	12	0.2	4	50
HDC1513R0.2	1.5	2	0.8	13	0.2	4	50
HDC1514R0.2	1.5	2	0.8	14	0.2	4	50
HDC1515R0.2	1.5	2	0.8	15	0.2	4	50
HDC1516R0.2	1.5	2	0.8	16	0.2	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC15R0.3



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

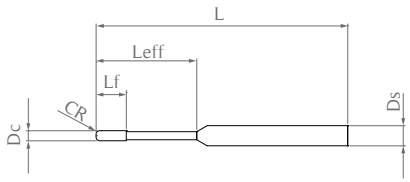
Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1501R0.3	1.5	2	0.8	1	0.3	4	50
HDC1502R0.3	1.5	2	0.8	2	0.3	4	50
HDC1503R0.3	1.5	2	0.8	3	0.3	4	50
HDC1504R0.3	1.5	2	0.8	4	0.3	4	50
HDC1505R0.3	1.5	2	0.8	5	0.3	4	50
HDC1506R0.3	1.5	2	0.8	6	0.3	4	50
HDC1507R0.3	1.5	2	0.8	7	0.3	4	50
HDC1508R0.3	1.5	2	0.8	8	0.3	4	50
HDC1509R0.3	1.5	2	0.8	9	0.3	4	50
HDC1510R0.3	1.5	2	0.8	10	0.3	4	50
HDC1511R0.3	1.5	2	0.8	11	0.3	4	50
HDC1512R0.3	1.5	2	0.8	12	0.3	4	50
HDC1513R0.3	1.5	2	0.8	13	0.3	4	50
HDC1514R0.3	1.5	2	0.8	14	0.3	4	50
HDC1515R0.3	1.5	2	0.8	15	0.3	4	50
HDC1516R0.3	1.5	2	0.8	16	0.3	4	50

HARD MILLING TOOLS

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC16R0.1



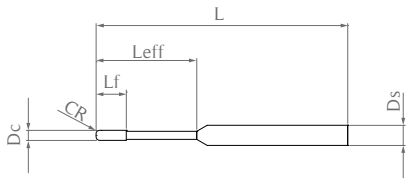
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1601R0.1	1.6	2	1	1	0.1	4	50
HDC1602R0.1	1.6	2	1	2	0.1	4	50
HDC1603R0.1	1.6	2	1	3	0.1	4	50
HDC1604R0.1	1.6	2	1	4	0.1	4	50
HDC1605R0.1	1.6	2	1	5	0.1	4	50
HDC1606R0.1	1.6	2	1	6	0.1	4	50
HDC1607R0.1	1.6	2	1	7	0.1	4	50
HDC1608R0.1	1.6	2	1	8	0.1	4	50
HDC1609R0.1	1.6	2	1	9	0.1	4	50
HDC1610R0.1	1.6	2	1	10	0.1	4	50
HDC1611R0.1	1.6	2	1	11	0.1	4	50
HDC1612R0.1	1.6	2	1	12	0.1	4	50
HDC1613R0.1	1.6	2	1	13	0.1	4	50
HDC1614R0.1	1.6	2	1	14	0.1	4	50
HDC1615R0.1	1.6	2	1	15	0.1	4	50
HDC1616R0.1	1.6	2	1	16	0.1	4	50
HDC1617R0.1	1.6	2	1	17	0.1	4	50
HDC1618R0.1	1.6	2	1	18	0.1	4	50

HARD MILLING TOOLS

HDC16R0.1



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

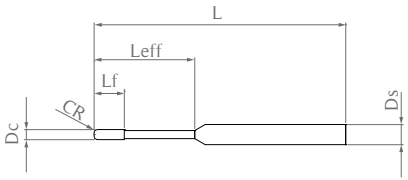
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1619R0.1	1.6	2	1	19	0.1	4	50
HDC1620R0.1	1.6	2	1	20	0.1	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC16R0.2



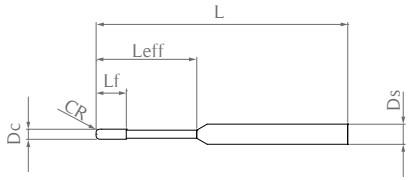
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1601R0.2	1.6	2	1	1	0.2	4	50
HDC1602R0.2	1.6	2	1	2	0.2	4	50
HDC1603R0.2	1.6	2	1	3	0.2	4	50
HDC1604R0.2	1.6	2	1	4	0.2	4	50
HDC1605R0.2	1.6	2	1	5	0.2	4	50
HDC1606R0.2	1.6	2	1	6	0.2	4	50
HDC1607R0.2	1.6	2	1	7	0.2	4	50
HDC1608R0.2	1.6	2	1	8	0.2	4	50
HDC1609R0.2	1.6	2	1	9	0.2	4	50
HDC1610R0.2	1.6	2	1	10	0.2	4	50
HDC1611R0.2	1.6	2	1	11	0.2	4	50
HDC1612R0.2	1.6	2	1	12	0.2	4	50
HDC1613R0.2	1.6	2	1	13	0.2	4	50
HDC1614R0.2	1.6	2	1	14	0.2	4	50
HDC1615R0.2	1.6	2	1	15	0.2	4	50
HDC1616R0.2	1.6	2	1	16	0.2	4	50
HDC1617R0.2	1.6	2	1	17	0.2	4	50
HDC1618R0.2	1.6	2	1	18	0.2	4	50

HARD MILLING TOOLS

HDC16R0.2



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

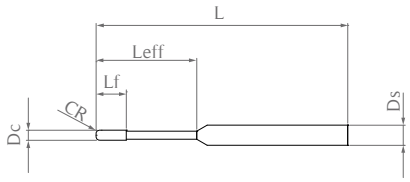
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1619R0.2	1.6	2	1	19	0.2	4	50
HDC1620R0.2	1.6	2	1	20	0.2	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC16R0.3



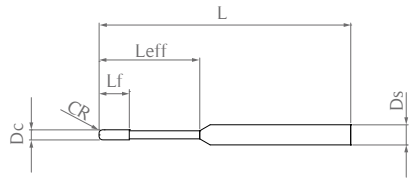
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1601R0.3	1.6	2	1	1	0.3	4	50
HDC1602R0.3	1.6	2	1	2	0.3	4	50
HDC1603R0.3	1.6	2	1	3	0.3	4	50
HDC1604R0.3	1.6	2	1	4	0.3	4	50
HDC1605R0.3	1.6	2	1	5	0.3	4	50
HDC1606R0.3	1.6	2	1	6	0.3	4	50
HDC1607R0.3	1.6	2	1	7	0.3	4	50
HDC1608R0.3	1.6	2	1	8	0.3	4	50
HDC1609R0.3	1.6	2	1	9	0.3	4	50
HDC1610R0.3	1.6	2	1	10	0.3	4	50
HDC1611R0.3	1.6	2	1	11	0.3	4	50
HDC1612R0.3	1.6	2	1	12	0.3	4	50
HDC1613R0.3	1.6	2	1	13	0.3	4	50
HDC1614R0.3	1.6	2	1	14	0.3	4	50
HDC1615R0.3	1.6	2	1	15	0.3	4	50
HDC1616R0.3	1.6	2	1	16	0.3	4	50
HDC1617R0.3	1.6	2	1	17	0.3	4	50
HDC1618R0.3	1.6	2	1	18	0.3	4	50

HARD MILLING TOOLS

HDC16R0.3



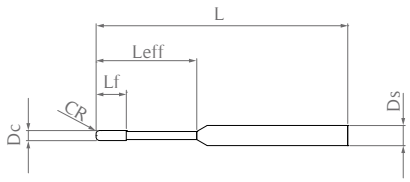
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1619R0.3	1.6	2	1	19	0.3	4	50
HDC1620R0.3	1.6	2	1	20	0.3	4	50

HARD MILLING TOOLS

HDC18R0.1



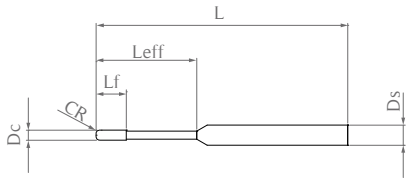
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1802R0.1	1.8	2	1.2	2	0.1	4	50
HDC1803R0.1	1.8	2	1.2	3	0.1	4	50
HDC1804R0.1	1.8	2	1.2	4	0.1	4	50
HDC1805R0.1	1.8	2	1.2	5	0.1	4	50
HDC1806R0.1	1.8	2	1.2	6	0.1	4	50
HDC1807R0.1	1.8	2	1.2	7	0.1	4	50
HDC1808R0.1	1.8	2	1.2	8	0.1	4	50
HDC1809R0.1	1.8	2	1.2	9	0.1	4	50
HDC1810R0.1	1.8	2	1.2	10	0.1	4	50
HDC1811R0.1	1.8	2	1.2	11	0.1	4	50
HDC1812R0.1	1.8	2	1.2	12	0.1	4	50
HDC1813R0.1	1.8	2	1.2	13	0.1	4	50
HDC1814R0.1	1.8	2	1.2	14	0.1	4	50
HDC1815R0.1	1.8	2	1.2	15	0.1	4	50
HDC1816R0.1	1.8	2	1.2	16	0.1	4	50
HDC1817R0.1	1.8	2	1.2	17	0.1	4	50
HDC1818R0.1	1.8	2	1.2	18	0.1	4	50
HDC1819R0.1	1.8	2	1.2	19	0.1	4	50
HDC1820R0.1	1.8	2	1.2	20	0.1	4	50

HARD MILLING TOOLS

HDC18R0.2



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

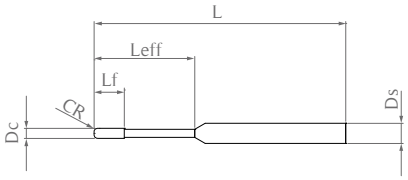
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1802R0.2	1.8	2	1.2	2	0.2	4	50
HDC1803R0.2	1.8	2	1.2	3	0.2	4	50
HDC1804R0.2	1.8	2	1.2	4	0.2	4	50
HDC1805R0.2	1.8	2	1.2	5	0.2	4	50
HDC1806R0.2	1.8	2	1.2	6	0.2	4	50
HDC1807R0.2	1.8	2	1.2	7	0.2	4	50
HDC1808R0.2	1.8	2	1.2	8	0.2	4	50
HDC1809R0.2	1.8	2	1.2	9	0.2	4	50
HDC1810R0.2	1.8	2	1.2	10	0.2	4	50
HDC1811R0.2	1.8	2	1.2	11	0.2	4	50
HDC1812R0.2	1.8	2	1.2	12	0.2	4	50
HDC1813R0.2	1.8	2	1.2	13	0.2	4	50
HDC1814R0.2	1.8	2	1.2	14	0.2	4	50
HDC1815R0.2	1.8	2	1.2	15	0.2	4	50
HDC1816R0.2	1.8	2	1.2	16	0.2	4	50
HDC1817R0.2	1.8	2	1.2	17	0.2	4	50
HDC1818R0.2	1.8	2	1.2	18	0.2	4	50
HDC1819R0.2	1.8	2	1.2	19	0.2	4	50
HDC1820R0.2	1.8	2	1.2	20	0.2	4	50

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HDC18R0.3



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

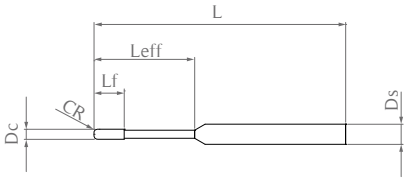
Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HDC1802R0.3	1.8	2	1.2	2	0.3	4	50
HDC1803R0.3	1.8	2	1.2	3	0.3	4	50
HDC1804R0.3	1.8	2	1.2	4	0.3	4	50
HDC1805R0.3	1.8	2	1.2	5	0.3	4	50
HDC1806R0.3	1.8	2	1.2	6	0.3	4	50
HDC1807R0.3	1.8	2	1.2	7	0.3	4	50
HDC1808R0.3	1.8	2	1.2	8	0.3	4	50
HDC1809R0.3	1.8	2	1.2	9	0.3	4	50
HDC1810R0.3	1.8	2	1.2	10	0.3	4	50
HDC1811R0.3	1.8	2	1.2	11	0.3	4	50
HDC1812R0.3	1.8	2	1.2	12	0.3	4	50
HDC1813R0.3	1.8	2	1.2	13	0.3	4	50
HDC1814R0.3	1.8	2	1.2	14	0.3	4	50
HDC1815R0.3	1.8	2	1.2	15	0.3	4	50
HDC1816R0.3	1.8	2	1.2	16	0.3	4	50
HDC1817R0.3	1.8	2	1.2	17	0.3	4	50
HDC1818R0.3	1.8	2	1.2	18	0.3	4	50
HDC1819R0.3	1.8	2	1.2	19	0.3	4	50
HDC1820R0.3	1.8	2	1.2	20	0.3	4	50

HARD MILLING TOOLS

Hard Milling
Corner Radius
2 Flute

HARD MILLING TOOLS

HQC20R0.1



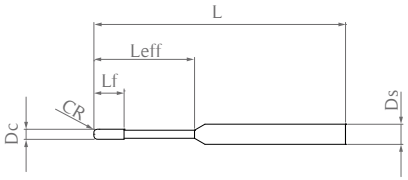
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2001R0.1	2	4	1	1	0.1	4	50
HQC2002R0.1	2	4	1	2	0.1	4	50
HQC2003R0.1	2	4	1	3	0.1	4	50
HQC2004R0.1	2	4	1	4	0.1	4	50
HQC2005R0.1	2	4	1	5	0.1	4	50
HQC2006R0.1	2	4	1	6	0.1	4	50
HQC2007R0.1	2	4	1	7	0.1	4	50
HQC2008R0.1	2	4	1	8	0.1	4	50
HQC2009R0.1	2	4	1	9	0.1	4	50
HQC2010R0.1	2	4	1	10	0.1	4	50
HQC2011R0.1	2	4	1	11	0.1	4	50
HQC2012R0.1	2	4	1	12	0.1	4	50
HQC2013R0.1	2	4	1	13	0.1	4	50
HQC2014R0.1	2	4	1	14	0.1	4	50
HQC2015R0.1	2	4	1	15	0.1	4	50
HQC2016R0.1	2	4	1	16	0.1	4	50
HQC2017R0.1	2	4	1	17	0.1	4	50

HARD MILLING TOOLS

HQC20R0.1



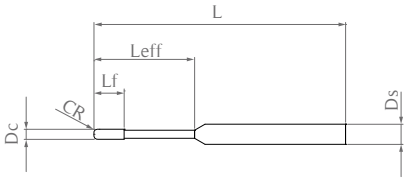
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2018R0.1	2	4	1	18	0.1	4	50
HQC2019R0.1	2	4	1	19	0.1	4	50
HQC2020R0.1	2	4	1	20	0.1	4	50

HARD MILLING TOOLS

HQC20R0.2



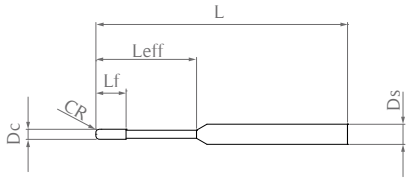
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2001R0.2	2	4	1	1	0.2	4	50
HQC2002R0.2	2	4	1	2	0.2	4	50
HQC2003R0.2	2	4	1	3	0.2	4	50
HQC2004R0.2	2	4	1	4	0.2	4	50
HQC2005R0.2	2	4	1	5	0.2	4	50
HQC2006R0.2	2	4	1	6	0.2	4	50
HQC2007R0.2	2	4	1	7	0.2	4	50
HQC2008R0.2	2	4	1	8	0.2	4	50
HQC2009R0.2	2	4	1	9	0.2	4	50
HQC2010R0.2	2	4	1	10	0.2	4	50
HQC2011R0.2	2	4	1	11	0.2	4	50
HQC2012R0.2	2	4	1	12	0.2	4	50
HQC2013R0.2	2	4	1	13	0.2	4	50
HQC2014R0.2	2	4	1	14	0.2	4	50
HQC2015R0.2	2	4	1	15	0.2	4	50
HQC2016R0.2	2	4	1	16	0.2	4	50
HQC2017R0.2	2	4	1	17	0.2	4	50

HARD MILLING TOOLS

HQC20R0.2



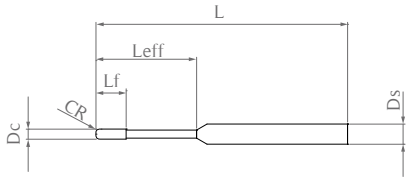
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2018R0.2	2	4	1	18	0.2	4	50
HQC2019R0.2	2	4	1	19	0.2	4	50
HQC2020R0.2	2	4	1	20	0.2	4	50

HARD MILLING TOOLS

HQC20R0.3



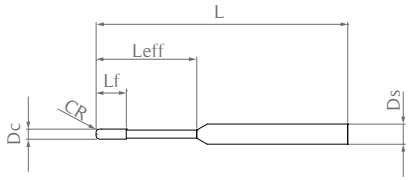
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2001R0.3	2	4	1	1	0.3	4	50
HQC2002R0.3	2	4	1	2	0.3	4	50
HQC2003R0.3	2	4	1	3	0.3	4	50
HQC2004R0.3	2	4	1	4	0.3	4	50
HQC2005R0.3	2	4	1	5	0.3	4	50
HQC2006R0.3	2	4	1	6	0.3	4	50
HQC2007R0.3	2	4	1	7	0.3	4	50
HQC2008R0.3	2	4	1	8	0.3	4	50
HQC2009R0.3	2	4	1	9	0.3	4	50
HQC2010R0.3	2	4	1	10	0.3	4	50
HQC2011R0.3	2	4	1	11	0.3	4	50
HQC2012R0.3	2	4	1	12	0.3	4	50
HQC2013R0.3	2	4	1	13	0.3	4	50
HQC2014R0.3	2	4	1	14	0.3	4	50
HQC2015R0.3	2	4	1	15	0.3	4	50
HQC2016R0.3	2	4	1	16	0.3	4	50
HQC2017R0.3	2	4	1	17	0.3	4	50

HARD MILLING TOOLS

HQC20R0.3



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

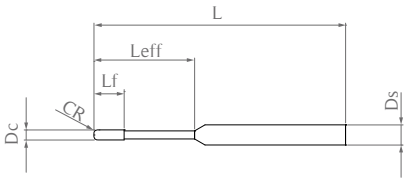
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2018R0.3	2	4	1	18	0.3	4	50
HQC2019R0.3	2	4	1	19	0.3	4	50
HQC2020R0.3	2	4	1	20	0.3	4	50

Hard Milling
Corner Radius
4 Flute

HARD MILLING TOOLS

HQC20R0.5



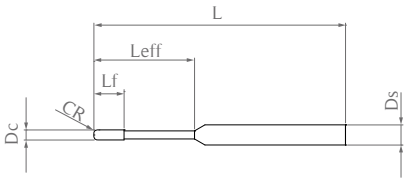
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2001R0.5	2	4	1	1	0.5	4	50
HQC2002R0.5	2	4	1	2	0.5	4	50
HQC2003R0.5	2	4	1	3	0.5	4	50
HQC2004R0.5	2	4	1	4	0.5	4	50
HQC2005R0.5	2	4	1	5	0.5	4	50
HQC2006R0.5	2	4	1	6	0.5	4	50
HQC2007R0.5	2	4	1	7	0.5	4	50
HQC2008R0.5	2	4	1	8	0.5	4	50
HQC2009R0.5	2	4	1	9	0.5	4	50
HQC2010R0.5	2	4	1	10	0.5	4	50
HQC2011R0.5	2	4	1	11	0.5	4	50
HQC2012R0.5	2	4	1	12	0.5	4	50
HQC2013R0.5	2	4	1	13	0.5	4	50
HQC2014R0.5	2	4	1	14	0.5	4	50
HQC2015R0.5	2	4	1	15	0.5	4	50
HQC2016R0.5	2	4	1	16	0.5	4	50
HQC2017R0.5	2	4	1	17	0.5	4	50

HARD MILLING TOOLS

HQC20R0.5



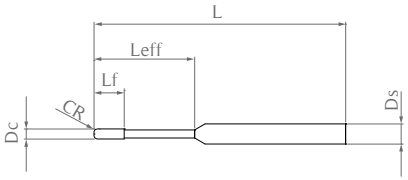
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2018R0.5	2	4	1	18	0.5	4	50
HQC2019R0.5	2	4	1	19	0.5	4	50
HQC2020R0.5	2	4	1	20	0.5	4	50

HARD MILLING TOOLS

HQC25R0.1



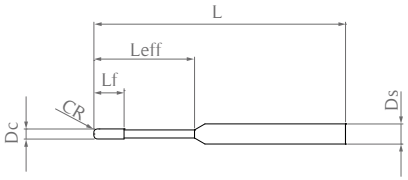
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2502R0.1	2.5	4	1.5	2	0.1	4	50
HQC2503R0.1	2.5	4	1.5	3	0.1	4	50
HQC2504R0.1	2.5	4	1.5	4	0.1	4	50
HQC2505R0.1	2.5	4	1.5	5	0.1	4	50
HQC2506R0.1	2.5	4	1.5	6	0.1	4	50
HQC2507R0.1	2.5	4	1.5	7	0.1	4	50
HQC2508R0.1	2.5	4	1.5	8	0.1	4	50
HQC2509R0.1	2.5	4	1.5	9	0.1	4	50
HQC2510R0.1	2.5	4	1.5	10	0.1	4	50
HQC2511R0.1	2.5	4	1.5	11	0.1	4	50
HQC2512R0.1	2.5	4	1.5	12	0.1	4	50
HQC2513R0.1	2.5	4	1.5	13	0.1	4	50
HQC2514R0.1	2.5	4	1.5	14	0.1	4	50
HQC2515R0.1	2.5	4	1.5	15	0.1	4	50
HQC2516R0.1	2.5	4	1.5	16	0.1	4	50
HQC2517R0.1	2.5	4	1.5	17	0.1	4	50
HQC2518R0.1	2.5	4	1.5	18	0.1	4	50

HARD MILLING TOOLS

HQC25R0.1



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

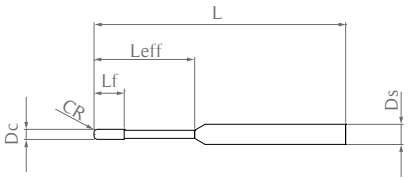
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2519R0.1	2.5	4	1.5	19	0.1	4	50
HQC2520R0.1	2.5	4	1.5	20	0.1	4	50
HQC2521R0.1	2.5	4	1.5	21	0.1	4	50
HQC2522R0.1	2.5	4	1.5	22	0.1	4	50
HQC2523R0.1	2.5	4	1.5	23	0.1	4	50
HQC2524R0.1	2.5	4	1.5	24	0.1	4	50
HQC2525R0.1	2.5	4	1.5	25	0.1	4	50

Hard Milling
Corner Radius
4 Flute

HARD MILLING TOOLS

HQC25R0.2



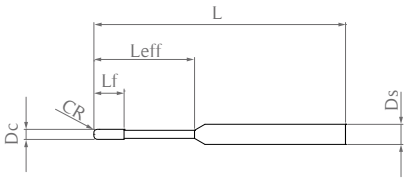
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2502R0.2	2.5	4	1.5	2	0.2	4	50
HQC2503R0.2	2.5	4	1.5	3	0.2	4	50
HQC2504R0.2	2.5	4	1.5	4	0.2	4	50
HQC2505R0.2	2.5	4	1.5	5	0.2	4	50
HQC2506R0.2	2.5	4	1.5	6	0.2	4	50
HQC2507R0.2	2.5	4	1.5	7	0.2	4	50
HQC2508R0.2	2.5	4	1.5	8	0.2	4	50
HQC2509R0.2	2.5	4	1.5	9	0.2	4	50
HQC2510R0.2	2.5	4	1.5	10	0.2	4	50
HQC2511R0.2	2.5	4	1.5	11	0.2	4	50
HQC2512R0.2	2.5	4	1.5	12	0.2	4	50
HQC2513R0.2	2.5	4	1.5	13	0.2	4	50
HQC2514R0.2	2.5	4	1.5	14	0.2	4	50
HQC2515R0.2	2.5	4	1.5	15	0.2	4	50
HQC2516R0.2	2.5	4	1.5	16	0.2	4	50
HQC2517R0.2	2.5	4	1.5	17	0.2	4	50
HQC2518R0.2	2.5	4	1.5	18	0.2	4	50

HARD MILLING TOOLS

HQC25R0.2



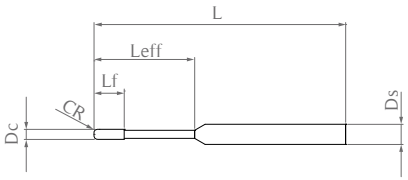
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2519R0.2	2.5	4	1.5	19	0.2	4	50
HQC2520R0.2	2.5	4	1.5	20	0.2	4	50
HQC2521R0.2	2.5	4	1.5	21	0.2	4	50
HQC2522R0.2	2.5	4	1.5	22	0.2	4	50
HQC2523R0.2	2.5	4	1.5	23	0.2	4	50
HQC2524R0.2	2.5	4	1.5	24	0.2	4	50
HQC2525R0.2	2.5	4	1.5	25	0.2	4	50

HARD MILLING TOOLS

HQC25R0.3



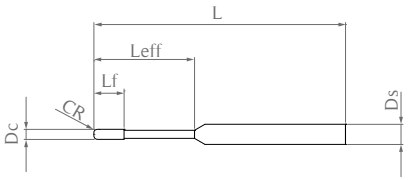
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2502R0.3	2.5	4	1.5	2	0.3	4	50
HQC2503R0.3	2.5	4	1.5	3	0.3	4	50
HQC2504R0.3	2.5	4	1.5	4	0.3	4	50
HQC2505R0.3	2.5	4	1.5	5	0.3	4	50
HQC2506R0.3	2.5	4	1.5	6	0.3	4	50
HQC2507R0.3	2.5	4	1.5	7	0.3	4	50
HQC2508R0.3	2.5	4	1.5	8	0.3	4	50
HQC2509R0.3	2.5	4	1.5	9	0.3	4	50
HQC2510R0.3	2.5	4	1.5	10	0.3	4	50
HQC2511R0.3	2.5	4	1.5	11	0.3	4	50
HQC2512R0.3	2.5	4	1.5	12	0.3	4	50
HQC2513R0.3	2.5	4	1.5	13	0.3	4	50
HQC2514R0.3	2.5	4	1.5	14	0.3	4	50
HQC2515R0.3	2.5	4	1.5	15	0.3	4	50
HQC2516R0.3	2.5	4	1.5	16	0.3	4	50
HQC2517R0.3	2.5	4	1.5	17	0.3	4	50
HQC2518R0.3	2.5	4	1.5	18	0.3	4	50

HARD MILLING TOOLS

HQC25R0.3



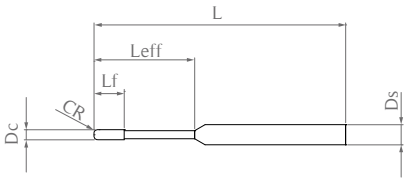
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2519R0.3	2.5	4	1.5	19	0.3	4	50
HQC2520R0.3	2.5	4	1.5	20	0.3	4	50
HQC2521R0.3	2.5	4	1.5	21	0.3	4	50
HQC2522R0.3	2.5	4	1.5	22	0.3	4	50
HQC2523R0.3	2.5	4	1.5	23	0.3	4	50
HQC2524R0.3	2.5	4	1.5	24	0.3	4	50
HQC2525R0.3	2.5	4	1.5	25	0.3	4	50

HARD MILLING TOOLS

HQC25R0.5



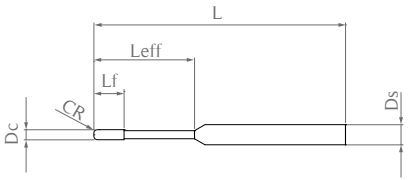
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2502R0.5	2.5	4	1.5	2	0.5	4	50
HQC2503R0.5	2.5	4	1.5	3	0.5	4	50
HQC2504R0.5	2.5	4	1.5	4	0.5	4	50
HQC2505R0.5	2.5	4	1.5	5	0.5	4	50
HQC2506R0.5	2.5	4	1.5	6	0.5	4	50
HQC2507R0.5	2.5	4	1.5	7	0.5	4	50
HQC2508R0.5	2.5	4	1.5	8	0.5	4	50
HQC2509R0.5	2.5	4	1.5	9	0.5	4	50
HQC2510R0.5	2.5	4	1.5	10	0.5	4	50
HQC2511R0.5	2.5	4	1.5	11	0.5	4	50
HQC2512R0.5	2.5	4	1.5	12	0.5	4	50
HQC2513R0.5	2.5	4	1.5	13	0.5	4	50
HQC2514R0.5	2.5	4	1.5	14	0.5	4	50
HQC2515R0.5	2.5	4	1.5	15	0.5	4	50
HQC2516R0.5	2.5	4	1.5	16	0.5	4	50
HQC2517R0.5	2.5	4	1.5	17	0.5	4	50
HQC2518R0.5	2.5	4	1.5	18	0.5	4	50

HARD MILLING TOOLS

HQC25R0.5



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

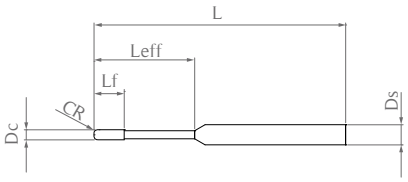
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC2519R0.5	2.5	4	1.5	19	0.5	4	50
HQC2520R0.5	2.5	4	1.5	20	0.5	4	50
HQC2521R0.5	2.5	4	1.5	21	0.5	4	50
HQC2522R0.5	2.5	4	1.5	22	0.5	4	50
HQC2523R0.5	2.5	4	1.5	23	0.5	4	50
HQC2524R0.5	2.5	4	1.5	24	0.5	4	50
HQC2525R0.5	2.5	4	1.5	25	0.5	4	50

Hard Milling
Corner Radius
4 Flute

HARD MILLING TOOLS

HQC30R0.1



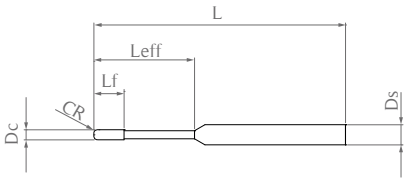
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3001R0.1	3	4	1.9	1	0.1	4	50
HQC3002R0.1	3	4	1.9	2	0.1	4	50
HQC3003R0.1	3	4	1.9	3	0.1	4	50
HQC3004R0.1	3	4	1.9	4	0.1	4	50
HQC3005R0.1	3	4	1.9	5	0.1	4	50
HQC3006R0.1	3	4	1.9	6	0.1	4	50
HQC3007R0.1	3	4	1.9	7	0.1	4	50
HQC3008R0.1	3	4	1.9	8	0.1	4	50
HQC3009R0.1	3	4	1.9	9	0.1	4	50
HQC3010R0.1	3	4	1.9	10	0.1	4	50
HQC3011R0.1	3	4	1.9	11	0.1	4	50
HQC3012R0.1	3	4	1.9	12	0.1	4	50
HQC3013R0.1	3	4	1.9	13	0.1	4	50
HQC3014R0.1	3	4	1.9	14	0.1	4	50
HQC3015R0.1	3	4	1.9	15	0.1	4	50
HQC3016R0.1	3	4	1.9	16	0.1	4	50
HQC3017R0.1	3	4	1.9	17	0.1	4	50
HQC3018R0.1	3	4	1.9	18	0.1	4	50

HARD MILLING TOOLS

HQC30R0.1



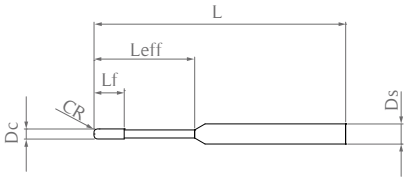
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3019R0.1	3	4	1.9	19	0.1	4	50
HQC3020R0.1	3	4	1.9	20	0.1	4	50
HQC3021R0.1	3	4	1.9	21	0.1	4	50
HQC3022R0.1	3	4	1.9	22	0.1	4	50
HQC3023R0.1	3	4	1.9	23	0.1	4	50
HQC3024R0.1	3	4	1.9	24	0.1	4	50
HQC3025R0.1	3	4	1.9	25	0.1	4	50
HQC3026R0.1	3	4	1.9	26	0.1	4	50
HQC3027R0.1	3	4	1.9	27	0.1	4	50
HQC3028R0.1	3	4	1.9	28	0.1	4	50
HQC3029R0.1	3	4	1.9	29	0.1	4	50
HQC3030R0.1	3	4	1.9	30	0.1	4	50

HARD MILLING TOOLS

HQC30R0.2



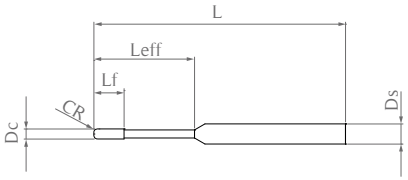
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3001R0.2	3	4	1.9	1	0.2	4	50
HQC3002R0.2	3	4	1.9	2	0.2	4	50
HQC3003R0.2	3	4	1.9	3	0.2	4	50
HQC3004R0.2	3	4	1.9	4	0.2	4	50
HQC3005R0.2	3	4	1.9	5	0.2	4	50
HQC3006R0.2	3	4	1.9	6	0.2	4	50
HQC3007R0.2	3	4	1.9	7	0.2	4	50
HQC3008R0.2	3	4	1.9	8	0.2	4	50
HQC3009R0.2	3	4	1.9	9	0.2	4	50
HQC3010R0.2	3	4	1.9	10	0.2	4	50
HQC3011R0.2	3	4	1.9	11	0.2	4	50
HQC3012R0.2	3	4	1.9	12	0.2	4	50
HQC3013R0.2	3	4	1.9	13	0.2	4	50
HQC3014R0.2	3	4	1.9	14	0.2	4	50
HQC3015R0.2	3	4	1.9	15	0.2	4	50
HQC3016R0.2	3	4	1.9	16	0.2	4	50
HQC3017R0.2	3	4	1.9	17	0.2	4	50
HQC3018R0.2	3	4	1.9	18	0.2	4	50

HARD MILLING TOOLS

HQC30R0.2



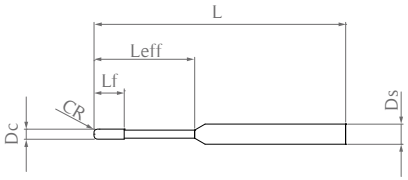
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3019R0.2	3	4	1.9	19	0.2	4	50
HQC3020R0.2	3	4	1.9	20	0.2	4	50
HQC3021R0.2	3	4	1.9	21	0.2	4	50
HQC3022R0.2	3	4	1.9	22	0.2	4	50
HQC3023R0.2	3	4	1.9	23	0.2	4	50
HQC3024R0.2	3	4	1.9	24	0.2	4	50
HQC3025R0.2	3	4	1.9	25	0.2	4	50
HQC3026R0.2	3	4	1.9	26	0.2	4	50
HQC3027R0.2	3	4	1.9	27	0.2	4	50
HQC3028R0.2	3	4	1.9	28	0.2	4	50
HQC3029R0.2	3	4	1.9	29	0.2	4	50
HQC3030R0.2	3	4	1.9	30	0.2	4	50

HARD MILLING TOOLS

HQC30R0.3



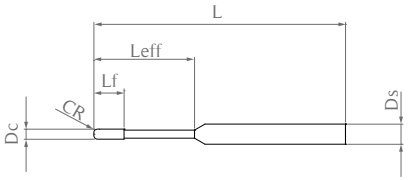
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3001R0.3	3	4	1.9	1	0.3	4	50
HQC3002R0.3	3	4	1.9	2	0.3	4	50
HQC3003R0.3	3	4	1.9	3	0.3	4	50
HQC3004R0.3	3	4	1.9	4	0.3	4	50
HQC3005R0.3	3	4	1.9	5	0.3	4	50
HQC3006R0.3	3	4	1.9	6	0.3	4	50
HQC3007R0.3	3	4	1.9	7	0.3	4	50
HQC3008R0.3	3	4	1.9	8	0.3	4	50
HQC3009R0.3	3	4	1.9	9	0.3	4	50
HQC3010R0.3	3	4	1.9	10	0.3	4	50
HQC3011R0.3	3	4	1.9	11	0.3	4	50
HQC3012R0.3	3	4	1.9	12	0.3	4	50
HQC3013R0.3	3	4	1.9	13	0.3	4	50
HQC3014R0.3	3	4	1.9	14	0.3	4	50
HQC3015R0.3	3	4	1.9	15	0.3	4	50
HQC3016R0.3	3	4	1.9	16	0.3	4	50
HQC3017R0.3	3	4	1.9	17	0.3	4	50
HQC3018R0.3	3	4	1.9	18	0.3	4	50

HARD MILLING TOOLS

HQC30R0.3



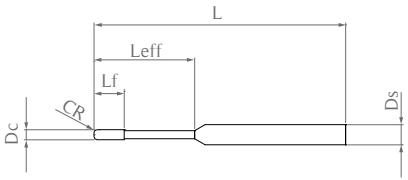
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3019R0.3	3	4	1.9	19	0.3	4	50
HQC3020R0.3	3	4	1.9	20	0.3	4	50
HQC3021R0.3	3	4	1.9	21	0.3	4	50
HQC3022R0.3	3	4	1.9	22	0.3	4	50
HQC3023R0.3	3	4	1.9	23	0.3	4	50
HQC3024R0.3	3	4	1.9	24	0.3	4	50
HQC3025R0.3	3	4	1.9	25	0.3	4	50
HQC3026R0.3	3	4	1.9	26	0.3	4	50
HQC3027R0.3	3	4	1.9	27	0.3	4	50
HQC3028R0.3	3	4	1.9	28	0.3	4	50
HQC3029R0.3	3	4	1.9	29	0.3	4	50
HQC3030R0.3	3	4	1.9	30	0.3	4	50

HARD MILLING TOOLS

HQC30R0.5



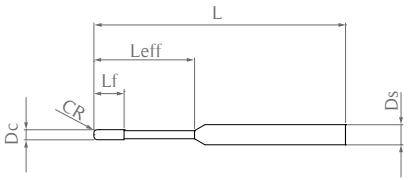
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3001R0.5	3	4	1.9	1	0.5	4	50
HQC3002R0.5	3	4	1.9	2	0.5	4	50
HQC3003R0.5	3	4	1.9	3	0.5	4	50
HQC3004R0.5	3	4	1.9	4	0.5	4	50
HQC3005R0.5	3	4	1.9	5	0.5	4	50
HQC3006R0.5	3	4	1.9	6	0.5	4	50
HQC3007R0.5	3	4	1.9	7	0.5	4	50
HQC3008R0.5	3	4	1.9	8	0.5	4	50
HQC3009R0.5	3	4	1.9	9	0.5	4	50
HQC3010R0.5	3	4	1.9	10	0.5	4	50
HQC3011R0.5	3	4	1.9	11	0.5	4	50
HQC3012R0.5	3	4	1.9	12	0.5	4	50
HQC3013R0.5	3	4	1.9	13	0.5	4	50
HQC3014R0.5	3	4	1.9	14	0.5	4	50
HQC3015R0.5	3	4	1.9	15	0.5	4	50
HQC3016R0.5	3	4	1.9	16	0.5	4	50
HQC3017R0.5	3	4	1.9	17	0.5	4	50
HQC3018R0.5	3	4	1.9	18	0.5	4	50

HARD MILLING TOOLS

HQC30R0.5



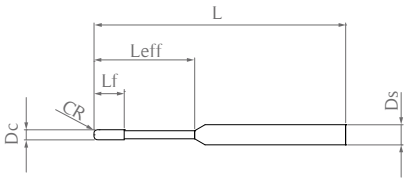
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3019R0.5	3	4	1.9	19	0.5	4	50
HQC3020R0.5	3	4	1.9	20	0.5	4	50
HQC3021R0.5	3	4	1.9	21	0.5	4	50
HQC3022R0.5	3	4	1.9	22	0.5	4	50
HQC3023R0.5	3	4	1.9	23	0.5	4	50
HQC3024R0.5	3	4	1.9	24	0.5	4	50
HQC3025R0.5	3	4	1.9	25	0.5	4	50
HQC3026R0.5	3	4	1.9	26	0.5	4	50
HQC3027R0.5	3	4	1.9	27	0.5	4	50
HQC3028R0.5	3	4	1.9	28	0.5	4	50
HQC3029R0.5	3	4	1.9	29	0.5	4	50
HQC3030R0.5	3	4	1.9	30	0.5	4	50

HARD MILLING TOOLS

HQC35R0.1



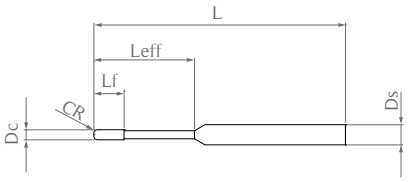
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3501R0.1	3.5	4	2	1	0.1	4	50
HQC3502R0.1	3.5	4	2	2	0.1	4	50
HQC3503R0.1	3.5	4	2	3	0.1	4	50
HQC3504R0.1	3.5	4	2	4	0.1	4	50
HQC3505R0.1	3.5	4	2	5	0.1	4	50
HQC3506R0.1	3.5	4	2	6	0.1	4	50
HQC3507R0.1	3.5	4	2	7	0.1	4	50
HQC3508R0.1	3.5	4	2	8	0.1	4	50
HQC3509R0.1	3.5	4	2	9	0.1	4	50
HQC3510R0.1	3.5	4	2	10	0.1	4	50
HQC3511R0.1	3.5	4	2	11	0.1	4	50
HQC3512R0.1	3.5	4	2	12	0.1	4	50
HQC3513R0.1	3.5	4	2	13	0.1	4	50
HQC3514R0.1	3.5	4	2	14	0.1	4	50
HQC3515R0.1	3.5	4	2	15	0.1	4	50
HQC3516R0.1	3.5	4	2	16	0.1	4	50
HQC3517R0.1	3.5	4	2	17	0.1	4	50
HQC3518R0.1	3.5	4	2	18	0.1	4	50

HARD MILLING TOOLS

HQC35R0.1



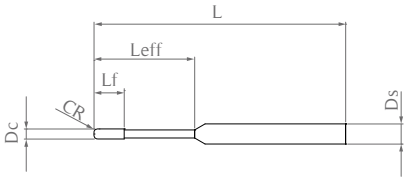
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3519R0.1	3.5	4	2	19	0.1	4	50
HQC3520R0.1	3.5	4	2	20	0.1	4	50
HQC3521R0.1	3.5	4	2	21	0.1	4	50
HQC3522R0.1	3.5	4	2	22	0.1	4	50
HQC3523R0.1	3.5	4	2	23	0.1	4	50
HQC3524R0.1	3.5	4	2	24	0.1	4	50
HQC3525R0.1	3.5	4	2	25	0.1	4	50
HQC3526R0.1	3.5	4	2	26	0.1	4	50
HQC3527R0.1	3.5	4	2	27	0.1	4	50
HQC3528R0.1	3.5	4	2	28	0.1	4	50
HQC3529R0.1	3.5	4	2	29	0.1	4	50
HQC3530R0.1	3.5	4	2	30	0.1	4	50

HARD MILLING TOOLS

HQC35R0.2



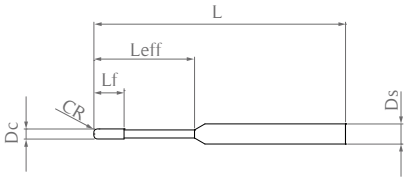
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3501R0.2	3.5	4	2	1	0.2	4	50
HQC3502R0.2	3.5	4	2	2	0.2	4	50
HQC3503R0.2	3.5	4	2	3	0.2	4	50
HQC3504R0.2	3.5	4	2	4	0.2	4	50
HQC3505R0.2	3.5	4	2	5	0.2	4	50
HQC3506R0.2	3.5	4	2	6	0.2	4	50
HQC3507R0.2	3.5	4	2	7	0.2	4	50
HQC3508R0.2	3.5	4	2	8	0.2	4	50
HQC3509R0.2	3.5	4	2	9	0.2	4	50
HQC3510R0.2	3.5	4	2	10	0.2	4	50
HQC3511R0.2	3.5	4	2	11	0.2	4	50
HQC3512R0.2	3.5	4	2	12	0.2	4	50
HQC3513R0.2	3.5	4	2	13	0.2	4	50
HQC3514R0.2	3.5	4	2	14	0.2	4	50
HQC3515R0.2	3.5	4	2	15	0.2	4	50
HQC3516R0.2	3.5	4	2	16	0.2	4	50
HQC3517R0.2	3.5	4	2	17	0.2	4	50
HQC3518R0.2	3.5	4	2	18	0.2	4	50

HARD MILLING TOOLS

HQC35R0.2



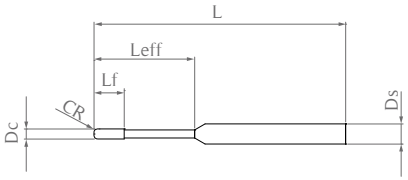
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3519R0.2	3.5	4	2	19	0.2	4	50
HQC3520R0.2	3.5	4	2	20	0.2	4	50
HQC3521R0.2	3.5	4	2	21	0.2	4	50
HQC3522R0.2	3.5	4	2	22	0.2	4	50
HQC3523R0.2	3.5	4	2	23	0.2	4	50
HQC3524R0.2	3.5	4	2	24	0.2	4	50
HQC3525R0.2	3.5	4	2	25	0.2	4	50
HQC3526R0.2	3.5	4	2	26	0.2	4	50
HQC3527R0.2	3.5	4	2	27	0.2	4	50
HQC3528R0.2	3.5	4	2	28	0.2	4	50
HQC3529R0.2	3.5	4	2	29	0.2	4	50
HQC3530R0.2	3.5	4	2	30	0.2	4	50

HARD MILLING TOOLS

HQC35R0.3



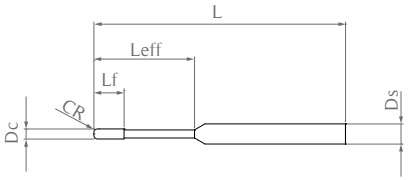
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3501R0.3	3.5	4	2	1	0.3	4	50
HQC3502R0.3	3.5	4	2	2	0.3	4	50
HQC3503R0.3	3.5	4	2	3	0.3	4	50
HQC3504R0.3	3.5	4	2	4	0.3	4	50
HQC3505R0.3	3.5	4	2	5	0.3	4	50
HQC3506R0.3	3.5	4	2	6	0.3	4	50
HQC3507R0.3	3.5	4	2	7	0.3	4	50
HQC3508R0.3	3.5	4	2	8	0.3	4	50
HQC3509R0.3	3.5	4	2	9	0.3	4	50
HQC3510R0.3	3.5	4	2	10	0.3	4	50
HQC3511R0.3	3.5	4	2	11	0.3	4	50
HQC3512R0.3	3.5	4	2	12	0.3	4	50
HQC3513R0.3	3.5	4	2	13	0.3	4	50
HQC3514R0.3	3.5	4	2	14	0.3	4	50
HQC3515R0.3	3.5	4	2	15	0.3	4	50
HQC3516R0.3	3.5	4	2	16	0.3	4	50
HQC3517R0.3	3.5	4	2	17	0.3	4	50
HQC3518R0.3	3.5	4	2	18	0.3	4	50

HARD MILLING TOOLS

HQC35R0.3



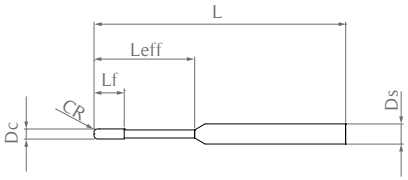
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3519R0.3	3.5	4	2	19	0.3	4	50
HQC3520R0.3	3.5	4	2	20	0.3	4	50
HQC3521R0.3	3.5	4	2	21	0.3	4	50
HQC3522R0.3	3.5	4	2	22	0.3	4	50
HQC3523R0.3	3.5	4	2	23	0.3	4	50
HQC3524R0.3	3.5	4	2	24	0.3	4	50
HQC3525R0.3	3.5	4	2	25	0.3	4	50
HQC3526R0.3	3.5	4	2	26	0.3	4	50
HQC3527R0.3	3.5	4	2	27	0.3	4	50
HQC3528R0.3	3.5	4	2	28	0.3	4	50
HQC3529R0.3	3.5	4	2	29	0.3	4	50
HQC3530R0.3	3.5	4	2	30	0.3	4	50

HARD MILLING TOOLS

HQC35R0.5



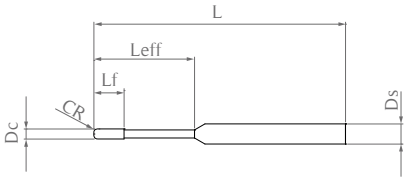
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3501R0.5	3.5	4	2	1	0.5	4	50
HQC3502R0.5	3.5	4	2	2	0.5	4	50
HQC3503R0.5	3.5	4	2	3	0.5	4	50
HQC3504R0.5	3.5	4	2	4	0.5	4	50
HQC3505R0.5	3.5	4	2	5	0.5	4	50
HQC3506R0.5	3.5	4	2	6	0.5	4	50
HQC3507R0.5	3.5	4	2	7	0.5	4	50
HQC3508R0.5	3.5	4	2	8	0.5	4	50
HQC3509R0.5	3.5	4	2	9	0.5	4	50
HQC3510R0.5	3.5	4	2	10	0.5	4	50
HQC3511R0.5	3.5	4	2	11	0.5	4	50
HQC3512R0.5	3.5	4	2	12	0.5	4	50
HQC3513R0.5	3.5	4	2	13	0.5	4	50
HQC3514R0.5	3.5	4	2	14	0.5	4	50
HQC3515R0.5	3.5	4	2	15	0.5	4	50
HQC3516R0.5	3.5	4	2	16	0.5	4	50
HQC3517R0.5	3.5	4	2	17	0.5	4	50
HQC3518R0.5	3.5	4	2	18	0.5	4	50

HARD MILLING TOOLS

HQC35R0.5



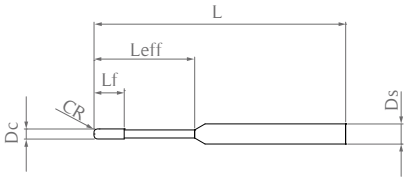
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC3519R0.5	3.5	4	2	19	0.5	4	50
HQC3520R0.5	3.5	4	2	20	0.5	4	50
HQC3521R0.5	3.5	4	2	21	0.5	4	50
HQC3522R0.5	3.5	4	2	22	0.5	4	50
HQC3523R0.5	3.5	4	2	23	0.5	4	50
HQC3524R0.5	3.5	4	2	24	0.5	4	50
HQC3525R0.5	3.5	4	2	25	0.5	4	50
HQC3526R0.5	3.5	4	2	26	0.5	4	50
HQC3527R0.5	3.5	4	2	27	0.5	4	50
HQC3528R0.5	3.5	4	2	28	0.5	4	50
HQC3529R0.5	3.5	4	2	29	0.5	4	50
HQC3530R0.5	3.5	4	2	30	0.5	4	50

HARD MILLING TOOLS

HQC40R0.1



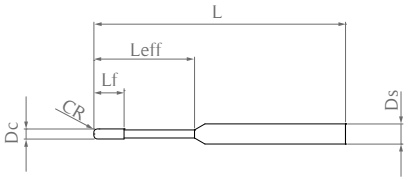
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4001R0.1	4	4	2.3	1	0.1	4	50
HQC4002R0.1	4	4	2.3	2	0.1	4	50
HQC4003R0.1	4	4	2.3	3	0.1	4	50
HQC4004R0.1	4	4	2.3	4	0.1	4	50
HQC4005R0.1	4	4	2.3	5	0.1	4	50
HQC4006R0.1	4	4	2.3	6	0.1	4	50
HQC4007R0.1	4	4	2.3	7	0.1	4	50
HQC4008R0.1	4	4	2.3	8	0.1	4	50
HQC4009R0.1	4	4	2.3	9	0.1	4	50
HQC4010R0.1	4	4	2.3	10	0.1	4	50
HQC4011R0.1	4	4	2.3	11	0.1	4	50
HQC4012R0.1	4	4	2.3	12	0.1	4	50
HQC4013R0.1	4	4	2.3	13	0.1	4	50
HQC4014R0.1	4	4	2.3	14	0.1	4	50
HQC4015R0.1	4	4	2.3	15	0.1	4	50
HQC4016R0.1	4	4	2.3	16	0.1	4	50
HQC4017R0.1	4	4	2.3	17	0.1	4	50
HQC4018R0.1	4	4	2.3	18	0.1	4	50

HARD MILLING TOOLS

HQC40R0.1



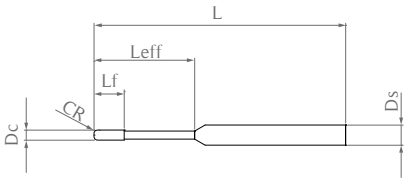
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4019R0.1	4	4	2.3	19	0.1	4	50
HQC4020R0.1	4	4	2.3	20	0.1	4	50
HQC4021R0.1	4	4	2.3	21	0.1	4	50
HQC4022R0.1	4	4	2.3	22	0.1	4	50
HQC4023R0.1	4	4	2.3	23	0.1	4	50
HQC4024R0.1	4	4	2.3	24	0.1	4	50
HQC4025R0.1	4	4	2.3	25	0.1	4	50
HQC4026R0.1	4	4	2.3	26	0.1	4	50
HQC4027R0.1	4	4	2.3	27	0.1	4	50
HQC4028R0.1	4	4	2.3	28	0.1	4	50
HQC4029R0.1	4	4	2.3	29	0.1	4	50
HQC4030R0.1	4	4	2.3	30	0.1	4	50

HARD MILLING TOOLS

HQC40R0.2



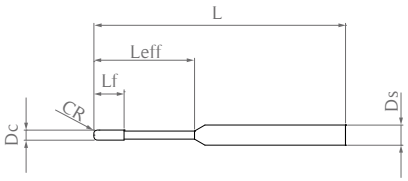
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4001R0.2	4	4	2.3	1	0.2	4	50
HQC4002R0.2	4	4	2.3	2	0.2	4	50
HQC4003R0.2	4	4	2.3	3	0.2	4	50
HQC4004R0.2	4	4	2.3	4	0.2	4	50
HQC4005R0.2	4	4	2.3	5	0.2	4	50
HQC4006R0.2	4	4	2.3	6	0.2	4	50
HQC4007R0.2	4	4	2.3	7	0.2	4	50
HQC4008R0.2	4	4	2.3	8	0.2	4	50
HQC4009R0.2	4	4	2.3	9	0.2	4	50
HQC4010R0.2	4	4	2.3	10	0.2	4	50
HQC4011R0.2	4	4	2.3	11	0.2	4	50
HQC4012R0.2	4	4	2.3	12	0.2	4	50
HQC4013R0.2	4	4	2.3	13	0.2	4	50
HQC4014R0.2	4	4	2.3	14	0.2	4	50
HQC4015R0.2	4	4	2.3	15	0.2	4	50
HQC4016R0.2	4	4	2.3	16	0.2	4	50
HQC4017R0.2	4	4	2.3	17	0.2	4	50
HQC4018R0.2	4	4	2.3	18	0.2	4	50

HARD MILLING TOOLS

HQC40R0.2



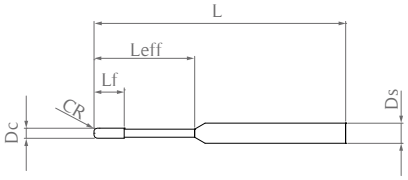
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4019R0.2	4	4	2.3	19	0.2	4	50
HQC4020R0.2	4	4	2.3	20	0.2	4	50
HQC4021R0.2	4	4	2.3	21	0.2	4	50
HQC4022R0.2	4	4	2.3	22	0.2	4	50
HQC4023R0.2	4	4	2.3	23	0.2	4	50
HQC4024R0.2	4	4	2.3	24	0.2	4	50
HQC4025R0.2	4	4	2.3	25	0.2	4	50
HQC4026R0.2	4	4	2.3	26	0.2	4	50
HQC4027R0.2	4	4	2.3	27	0.2	4	50
HQC4028R0.2	4	4	2.3	28	0.2	4	50
HQC4029R0.2	4	4	2.3	29	0.2	4	50
HQC4030R0.2	4	4	2.3	30	0.2	4	50

HARD MILLING TOOLS

HQC40R0.3



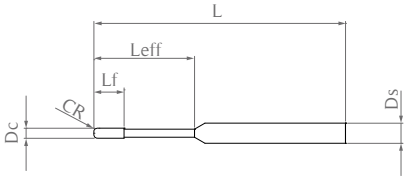
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4001R0.3	4	4	2.3	1	0.3	4	50
HQC4002R0.3	4	4	2.3	2	0.3	4	50
HQC4003R0.3	4	4	2.3	3	0.3	4	50
HQC4004R0.3	4	4	2.3	4	0.3	4	50
HQC4005R0.3	4	4	2.3	5	0.3	4	50
HQC4006R0.3	4	4	2.3	6	0.3	4	50
HQC4007R0.3	4	4	2.3	7	0.3	4	50
HQC4008R0.3	4	4	2.3	8	0.3	4	50
HQC4009R0.3	4	4	2.3	9	0.3	4	50
HQC4010R0.3	4	4	2.3	10	0.3	4	50
HQC4011R0.3	4	4	2.3	11	0.3	4	50
HQC4012R0.3	4	4	2.3	12	0.3	4	50
HQC4013R0.3	4	4	2.3	13	0.3	4	50
HQC4014R0.3	4	4	2.3	14	0.3	4	50
HQC4015R0.3	4	4	2.3	15	0.3	4	50
HQC4016R0.3	4	4	2.3	16	0.3	4	50
HQC4017R0.3	4	4	2.3	17	0.3	4	50
HQC4018R0.3	4	4	2.3	18	0.3	4	50

HARD MILLING TOOLS

HQC40R0.3



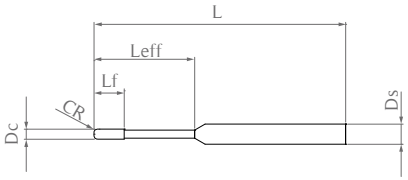
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4019R0.3	4	4	2.3	19	0.3	4	50
HQC4020R0.3	4	4	2.3	20	0.3	4	50
HQC4021R0.3	4	4	2.3	21	0.3	4	50
HQC4022R0.3	4	4	2.3	22	0.3	4	50
HQC4023R0.3	4	4	2.3	23	0.3	4	50
HQC4024R0.3	4	4	2.3	24	0.3	4	50
HQC4025R0.3	4	4	2.3	25	0.3	4	50
HQC4026R0.3	4	4	2.3	26	0.3	4	50
HQC4027R0.3	4	4	2.3	27	0.3	4	50
HQC4028R0.3	4	4	2.3	28	0.3	4	50
HQC4029R0.3	4	4	2.3	29	0.3	4	50
HQC4030R0.3	4	4	2.3	30	0.3	4	50

HARD MILLING TOOLS

HQC40R0.5



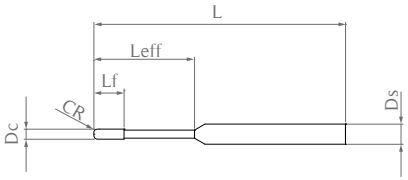
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4001R0.5	4	4	2.3	1	0.5	4	50
HQC4002R0.5	4	4	2.3	2	0.5	4	50
HQC4003R0.5	4	4	2.3	3	0.5	4	50
HQC4004R0.5	4	4	2.3	4	0.5	4	50
HQC4005R0.5	4	4	2.3	5	0.5	4	50
HQC4006R0.5	4	4	2.3	6	0.5	4	50
HQC4007R0.5	4	4	2.3	7	0.5	4	50
HQC4008R0.5	4	4	2.3	8	0.5	4	50
HQC4009R0.5	4	4	2.3	9	0.5	4	50
HQC4010R0.5	4	4	2.3	10	0.5	4	50
HQC4011R0.5	4	4	2.3	11	0.5	4	50
HQC4012R0.5	4	4	2.3	12	0.5	4	50
HQC4013R0.5	4	4	2.3	13	0.5	4	50
HQC4014R0.5	4	4	2.3	14	0.5	4	50
HQC4015R0.5	4	4	2.3	15	0.5	4	50
HQC4016R0.5	4	4	2.3	16	0.5	4	50
HQC4017R0.5	4	4	2.3	17	0.5	4	50
HQC4018R0.5	4	4	2.3	18	0.5	4	50

HARD MILLING TOOLS

HQC40R0.5



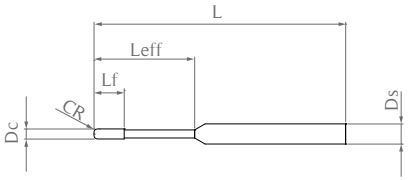
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC4019R0.5	4	4	2.3	19	0.5	4	50
HQC4020R0.5	4	4	2.3	20	0.5	4	50
HQC4021R0.5	4	4	2.3	21	0.5	4	50
HQC4022R0.5	4	4	2.3	22	0.5	4	50
HQC4023R0.5	4	4	2.3	23	0.5	4	50
HQC4024R0.5	4	4	2.3	24	0.5	4	50
HQC4025R0.5	4	4	2.3	25	0.5	4	50
HQC4026R0.5	4	4	2.3	26	0.5	4	50
HQC4027R0.5	4	4	2.3	27	0.5	4	50
HQC4028R0.5	4	4	2.3	28	0.5	4	50
HQC4029R0.5	4	4	2.3	29	0.5	4	50
HQC4030R0.5	4	4	2.3	30	0.5	4	50

HARD MILLING TOOLS

HQC50R0.1



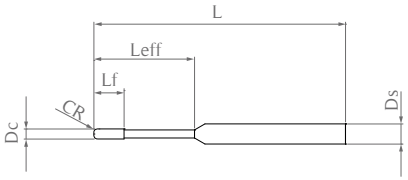
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5001R0.1	5	4	2.8	1	0.1	6	50
HQC5002R0.1	5	4	2.8	2	0.1	6	50
HQC5003R0.1	5	4	2.8	3	0.1	6	50
HQC5004R0.1	5	4	2.8	4	0.1	6	50
HQC5005R0.1	5	4	2.8	5	0.1	6	50
HQC5006R0.1	5	4	2.8	6	0.1	6	50
HQC5007R0.1	5	4	2.8	7	0.1	6	50
HQC5008R0.1	5	4	2.8	8	0.1	6	50
HQC5009R0.1	5	4	2.8	9	0.1	6	50
HQC5010R0.1	5	4	2.8	10	0.1	6	50
HQC5011R0.1	5	4	2.8	11	0.1	6	50
HQC5012R0.1	5	4	2.8	12	0.1	6	50
HQC5013R0.1	5	4	2.8	13	0.1	6	50
HQC5014R0.1	5	4	2.8	14	0.1	6	50
HQC5015R0.1	5	4	2.8	15	0.1	6	50
HQC5016R0.1	5	4	2.8	16	0.1	6	50
HQC5017R0.1	5	4	2.8	17	0.1	6	50
HQC5018R0.1	5	4	2.8	18	0.1	6	50

HARD MILLING TOOLS

HQC50R0.1



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

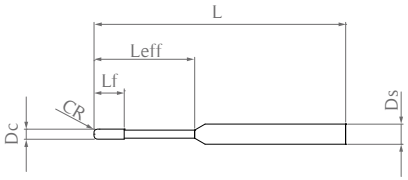
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5019R0.1	5	4	2.8	19	0.1	6	50
HQC5020R0.1	5	4	2.8	20	0.1	6	50
HQC5021R0.1	5	4	2.8	21	0.1	6	50
HQC5022R0.1	5	4	2.8	22	0.1	6	50
HQC5023R0.1	5	4	2.8	23	0.1	6	50
HQC5024R0.1	5	4	2.8	24	0.1	6	50
HQC5025R0.1	5	4	2.8	25	0.1	6	50
HQC5026R0.1	5	4	2.8	26	0.1	6	50
HQC5027R0.1	5	4	2.8	27	0.1	6	50
HQC5028R0.1	5	4	2.8	28	0.1	6	50
HQC5029R0.1	5	4	2.8	29	0.1	6	50
HQC5030R0.1	5	4	2.8	30	0.1	6	50

Hard Milling
Corner Radius
4 Flute

HARD MILLING TOOLS

HQC50R0.2



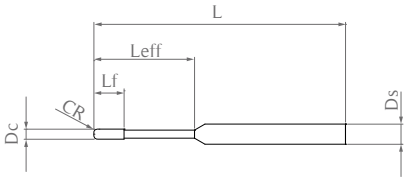
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5001R0.2	5	4	2.8	1	0.2	6	50
HQC5002R0.2	5	4	2.8	2	0.2	6	50
HQC5003R0.2	5	4	2.8	3	0.2	6	50
HQC5004R0.2	5	4	2.8	4	0.2	6	50
HQC5005R0.2	5	4	2.8	5	0.2	6	50
HQC5006R0.2	5	4	2.8	6	0.2	6	50
HQC5007R0.2	5	4	2.8	7	0.2	6	50
HQC5008R0.2	5	4	2.8	8	0.2	6	50
HQC5009R0.2	5	4	2.8	9	0.2	6	50
HQC5010R0.2	5	4	2.8	10	0.2	6	50
HQC5011R0.2	5	4	2.8	11	0.2	6	50
HQC5012R0.2	5	4	2.8	12	0.2	6	50
HQC5013R0.2	5	4	2.8	13	0.2	6	50
HQC5014R0.2	5	4	2.8	14	0.2	6	50
HQC5015R0.2	5	4	2.8	15	0.2	6	50
HQC5016R0.2	5	4	2.8	16	0.2	6	50
HQC5017R0.2	5	4	2.8	17	0.2	6	50
HQC5018R0.2	5	4	2.8	18	0.2	6	50

HARD MILLING TOOLS

HQC50R0.2



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

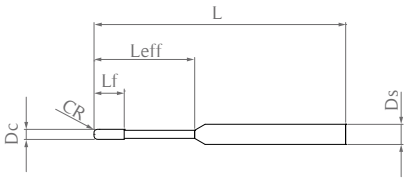
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5019R0.2	5	4	2.8	19	0.2	6	50
HQC5020R0.2	5	4	2.8	20	0.2	6	50
HQC5021R0.2	5	4	2.8	21	0.2	6	50
HQC5022R0.2	5	4	2.8	22	0.2	6	50
HQC5023R0.2	5	4	2.8	23	0.2	6	50
HQC5024R0.2	5	4	2.8	24	0.2	6	50
HQC5025R0.2	5	4	2.8	25	0.2	6	50
HQC5026R0.2	5	4	2.8	26	0.2	6	50
HQC5027R0.2	5	4	2.8	27	0.2	6	50
HQC5028R0.2	5	4	2.8	28	0.2	6	50
HQC5029R0.2	5	4	2.8	29	0.2	6	50
HQC5030R0.2	5	4	2.8	30	0.2	6	50

Hard Milling
Corner Radius
4 Flute

HARD MILLING TOOLS

HQC50R0.3



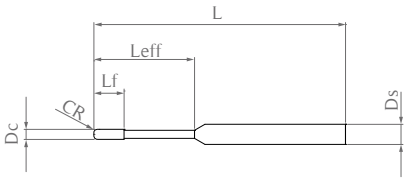
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5001R0.3	5	4	2.8	1	0.3	6	50
HQC5002R0.3	5	4	2.8	2	0.3	6	50
HQC5003R0.3	5	4	2.8	3	0.3	6	50
HQC5004R0.3	5	4	2.8	4	0.3	6	50
HQC5005R0.3	5	4	2.8	5	0.3	6	50
HQC5006R0.3	5	4	2.8	6	0.3	6	50
HQC5007R0.3	5	4	2.8	7	0.3	6	50
HQC5008R0.3	5	4	2.8	8	0.3	6	50
HQC5009R0.3	5	4	2.8	9	0.3	6	50
HQC5010R0.3	5	4	2.8	10	0.3	6	50
HQC5011R0.3	5	4	2.8	11	0.3	6	50
HQC5012R0.3	5	4	2.8	12	0.3	6	50
HQC5013R0.3	5	4	2.8	13	0.3	6	50
HQC5014R0.3	5	4	2.8	14	0.3	6	50
HQC5015R0.3	5	4	2.8	15	0.3	6	50
HQC5016R0.3	5	4	2.8	16	0.3	6	50
HQC5017R0.3	5	4	2.8	17	0.3	6	50
HQC5018R0.3	5	4	2.8	18	0.3	6	50

HARD MILLING TOOLS

HQC50R0.3



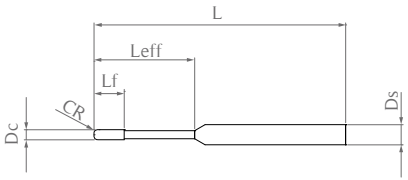
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5019R0.3	5	4	2.8	19	0.3	6	50
HQC5020R0.3	5	4	2.8	20	0.3	6	50
HQC5021R0.3	5	4	2.8	21	0.3	6	50
HQC5022R0.3	5	4	2.8	22	0.3	6	50
HQC5023R0.3	5	4	2.8	23	0.3	6	50
HQC5024R0.3	5	4	2.8	24	0.3	6	50
HQC5025R0.3	5	4	2.8	25	0.3	6	50
HQC5026R0.3	5	4	2.8	26	0.3	6	50
HQC5027R0.3	5	4	2.8	27	0.3	6	50
HQC5028R0.3	5	4	2.8	28	0.3	6	50
HQC5029R0.3	5	4	2.8	29	0.3	6	50
HQC5030R0.3	5	4	2.8	30	0.3	6	50

HARD MILLING TOOLS

HQC50R0.5



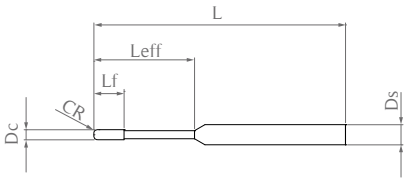
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5001R0.5	5	4	2.8	1	0.5	6	50
HQC5002R0.5	5	4	2.8	2	0.5	6	50
HQC5003R0.5	5	4	2.8	3	0.5	6	50
HQC5004R0.5	5	4	2.8	4	0.5	6	50
HQC5005R0.5	5	4	2.8	5	0.5	6	50
HQC5006R0.5	5	4	2.8	6	0.5	6	50
HQC5007R0.5	5	4	2.8	7	0.5	6	50
HQC5008R0.5	5	4	2.8	8	0.5	6	50
HQC5009R0.5	5	4	2.8	9	0.5	6	50
HQC5010R0.5	5	4	2.8	10	0.5	6	50
HQC5011R0.5	5	4	2.8	11	0.5	6	50
HQC5012R0.5	5	4	2.8	12	0.5	6	50
HQC5013R0.5	5	4	2.8	13	0.5	6	50
HQC5014R0.5	5	4	2.8	14	0.5	6	50
HQC5015R0.5	5	4	2.8	15	0.5	6	50
HQC5016R0.5	5	4	2.8	16	0.5	6	50
HQC5017R0.5	5	4	2.8	17	0.5	6	50
HQC5018R0.5	5	4	2.8	18	0.5	6	50

HARD MILLING TOOLS

HQC50R0.5



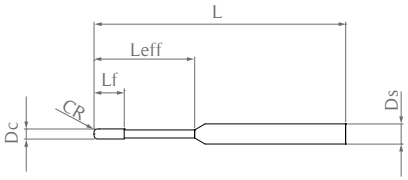
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC5019R0.5	5	4	2.8	19	0.5	6	50
HQC5020R0.5	5	4	2.8	20	0.5	6	50
HQC5021R0.5	5	4	2.8	21	0.5	6	50
HQC5022R0.5	5	4	2.8	22	0.5	6	50
HQC5023R0.5	5	4	2.8	23	0.5	6	50
HQC5024R0.5	5	4	2.8	24	0.5	6	50
HQC5025R0.5	5	4	2.8	25	0.5	6	50
HQC5026R0.5	5	4	2.8	26	0.5	6	50
HQC5027R0.5	5	4	2.8	27	0.5	6	50
HQC5028R0.5	5	4	2.8	28	0.5	6	50
HQC5029R0.5	5	4	2.8	29	0.5	6	50
HQC5030R0.5	5	4	2.8	30	0.5	6	50

HARD MILLING TOOLS

HQC60R0.1



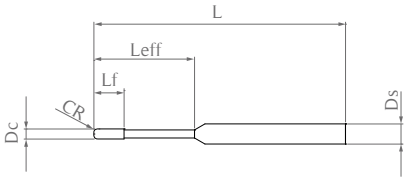
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6001R0.1	6	4	3.6	1	0.1	6	50
HQC6002R0.1	6	4	3.6	2	0.1	6	50
HQC6003R0.1	6	4	3.6	3	0.1	6	50
HQC6004R0.1	6	4	3.6	4	0.1	6	50
HQC6005R0.1	6	4	3.6	5	0.1	6	50
HQC6006R0.1	6	4	3.6	6	0.1	6	50
HQC6007R0.1	6	4	3.6	7	0.1	6	50
HQC6008R0.1	6	4	3.6	8	0.1	6	50
HQC6009R0.1	6	4	3.6	9	0.1	6	50
HQC6010R0.1	6	4	3.6	10	0.1	6	50
HQC6011R0.1	6	4	3.6	11	0.1	6	50
HQC6012R0.1	6	4	3.6	12	0.1	6	50
HQC6013R0.1	6	4	3.6	13	0.1	6	50
HQC6014R0.1	6	4	3.6	14	0.1	6	50
HQC6015R0.1	6	4	3.6	15	0.1	6	50
HQC6016R0.1	6	4	3.6	16	0.1	6	50
HQC6017R0.1	6	4	3.6	17	0.1	6	50
HQC6018R0.1	6	4	3.6	18	0.1	6	50

HARD MILLING TOOLS

HQC60R0.1



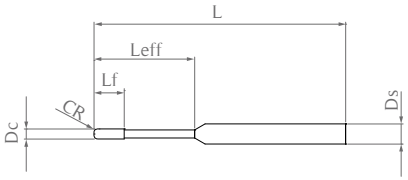
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6019R0.1	6	4	3.6	19	0.1	6	50
HQC6020R0.1	6	4	3.6	20	0.1	6	50
HQC6021R0.1	6	4	3.6	21	0.1	6	50
HQC6022R0.1	6	4	3.6	22	0.1	6	50
HQC6023R0.1	6	4	3.6	23	0.1	6	50
HQC6024R0.1	6	4	3.6	24	0.1	6	50
HQC6025R0.1	6	4	3.6	25	0.1	6	50
HQC6026R0.1	6	4	3.6	26	0.1	6	50
HQC6027R0.1	6	4	3.6	27	0.1	6	50
HQC6028R0.1	6	4	3.6	28	0.1	6	50
HQC6029R0.1	6	4	3.6	29	0.1	6	50
HQC6030R0.1	6	4	3.6	30	0.1	6	50

HARD MILLING TOOLS

HQC60R0.2



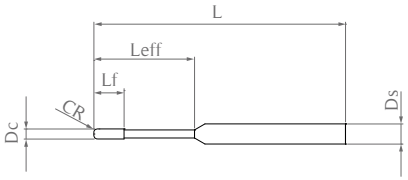
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6001R0.2	6	4	3.6	1	0.2	6	50
HQC6002R0.2	6	4	3.6	2	0.2	6	50
HQC6003R0.2	6	4	3.6	3	0.2	6	50
HQC6004R0.2	6	4	3.6	4	0.2	6	50
HQC6005R0.2	6	4	3.6	5	0.2	6	50
HQC6006R0.2	6	4	3.6	6	0.2	6	50
HQC6007R0.2	6	4	3.6	7	0.2	6	50
HQC6008R0.2	6	4	3.6	8	0.2	6	50
HQC6009R0.2	6	4	3.6	9	0.2	6	50
HQC6010R0.2	6	4	3.6	10	0.2	6	50
HQC6011R0.2	6	4	3.6	11	0.2	6	50
HQC6012R0.2	6	4	3.6	12	0.2	6	50
HQC6013R0.2	6	4	3.6	13	0.2	6	50
HQC6014R0.2	6	4	3.6	14	0.2	6	50
HQC6015R0.2	6	4	3.6	15	0.2	6	50
HQC6016R0.2	6	4	3.6	16	0.2	6	50
HQC6017R0.2	6	4	3.6	17	0.2	6	50
HQC6018R0.2	6	4	3.6	18	0.2	6	50

HARD MILLING TOOLS

HQC60R0.2



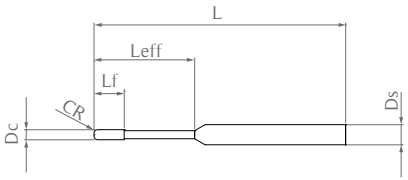
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6019R0.2	6	4	3.6	19	0.2	6	50
HQC6020R0.2	6	4	3.6	20	0.2	6	50
HQC6021R0.2	6	4	3.6	21	0.2	6	50
HQC6022R0.2	6	4	3.6	22	0.2	6	50
HQC6023R0.2	6	4	3.6	23	0.2	6	50
HQC6024R0.2	6	4	3.6	24	0.2	6	50
HQC6025R0.2	6	4	3.6	25	0.2	6	50
HQC6026R0.2	6	4	3.6	26	0.2	6	50
HQC6027R0.2	6	4	3.6	27	0.2	6	50
HQC6028R0.2	6	4	3.6	28	0.2	6	50
HQC6029R0.2	6	4	3.6	29	0.2	6	50
HQC6030R0.2	6	4	3.6	30	0.2	6	50

HARD MILLING TOOLS

HQC60R0.3



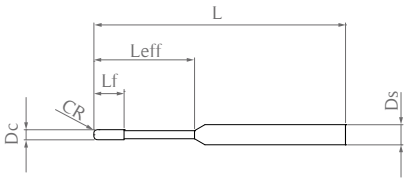
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6001R0.3	6	4	3.6	1	0.3	6	50
HQC6002R0.3	6	4	3.6	2	0.3	6	50
HQC6003R0.3	6	4	3.6	3	0.3	6	50
HQC6004R0.3	6	4	3.6	4	0.3	6	50
HQC6005R0.3	6	4	3.6	5	0.3	6	50
HQC6006R0.3	6	4	3.6	6	0.3	6	50
HQC6007R0.3	6	4	3.6	7	0.3	6	50
HQC6008R0.3	6	4	3.6	8	0.3	6	50
HQC6009R0.3	6	4	3.6	9	0.3	6	50
HQC6010R0.3	6	4	3.6	10	0.3	6	50
HQC6011R0.3	6	4	3.6	11	0.3	6	50
HQC6012R0.3	6	4	3.6	12	0.3	6	50
HQC6013R0.3	6	4	3.6	13	0.3	6	50
HQC6014R0.3	6	4	3.6	14	0.3	6	50
HQC6015R0.3	6	4	3.6	15	0.3	6	50
HQC6016R0.3	6	4	3.6	16	0.3	6	50
HQC6017R0.3	6	4	3.6	17	0.3	6	50
HQC6018R0.3	6	4	3.6	18	0.3	6	50

HARD MILLING TOOLS

HQC60R0.3



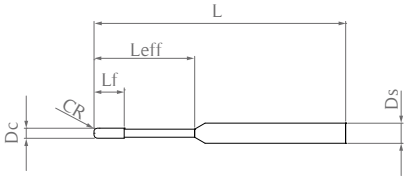
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6019R0.3	6	4	3.6	19	0.3	6	50
HQC6020R0.3	6	4	3.6	20	0.3	6	50
HQC6021R0.3	6	4	3.6	21	0.3	6	50
HQC6022R0.3	6	4	3.6	22	0.3	6	50
HQC6023R0.3	6	4	3.6	23	0.3	6	50
HQC6024R0.3	6	4	3.6	24	0.3	6	50
HQC6025R0.3	6	4	3.6	25	0.3	6	50
HQC6026R0.3	6	4	3.6	26	0.3	6	50
HQC6027R0.3	6	4	3.6	27	0.3	6	50
HQC6028R0.3	6	4	3.6	28	0.3	6	50
HQC6029R0.3	6	4	3.6	29	0.3	6	50
HQC6030R0.3	6	4	3.6	30	0.3	6	50

HARD MILLING TOOLS

HQC60R0.5



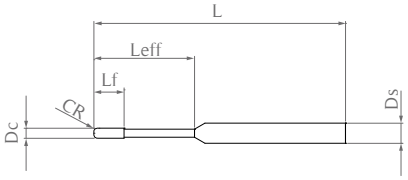
Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6001R0.5	6	4	3.6	1	0.5	6	50
HQC6002R0.5	6	4	3.6	2	0.5	6	50
HQC6003R0.5	6	4	3.6	3	0.5	6	50
HQC6004R0.5	6	4	3.6	4	0.5	6	50
HQC6005R0.5	6	4	3.6	5	0.5	6	50
HQC6006R0.5	6	4	3.6	6	0.5	6	50
HQC6007R0.5	6	4	3.6	7	0.5	6	50
HQC6008R0.5	6	4	3.6	8	0.5	6	50
HQC6009R0.5	6	4	3.6	9	0.5	6	50
HQC6010R0.5	6	4	3.6	10	0.5	6	50
HQC6011R0.5	6	4	3.6	11	0.5	6	50
HQC6012R0.5	6	4	3.6	12	0.5	6	50
HQC6013R0.5	6	4	3.6	13	0.5	6	50
HQC6014R0.5	6	4	3.6	14	0.5	6	50
HQC6015R0.5	6	4	3.6	15	0.5	6	50
HQC6016R0.5	6	4	3.6	16	0.5	6	50
HQC6017R0.5	6	4	3.6	17	0.5	6	50
HQC6018R0.5	6	4	3.6	18	0.5	6	50

HARD MILLING TOOLS

HQC60R0.5



Tolerance
Dc: 0 ~ -0.01
R: +/-0.005
R profile line form: +/-0.003
Runout: 0.005
Eff. Length Leff: +0.05~+0.15
Ds: h5

unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
HQC6019R0.5	6	4	3.6	19	0.5	6	50
HQC6020R0.5	6	4	3.6	20	0.5	6	50
HQC6021R0.5	6	4	3.6	21	0.5	6	50
HQC6022R0.5	6	4	3.6	22	0.5	6	50
HQC6023R0.5	6	4	3.6	23	0.5	6	50
HQC6024R0.5	6	4	3.6	24	0.5	6	50
HQC6025R0.5	6	4	3.6	25	0.5	6	50
HQC6026R0.5	6	4	3.6	26	0.5	6	50
HQC6027R0.5	6	4	3.6	27	0.5	6	50
HQC6028R0.5	6	4	3.6	28	0.5	6	50
HQC6029R0.5	6	4	3.6	29	0.5	6	50
HQC6030R0.5	6	4	3.6	30	0.5	6	50

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45				
			ae	ap	fz	S	F
0.2	2	1	0.030	0.009	0.008	42197	675
0.2	2	2	0.030	0.006	0.006	39809	478
0.2	2	3	0.030	0.004	0.004	31847	255
0.3	2	1	0.050	0.011	0.009	37155	669
0.3	2	2	0.050	0.009	0.008	29724	476
0.3	2	3	0.050	0.006	0.006	21231	255
0.4	2	1	0.060	0.015	0.012	31847	764
0.4	2	2	0.060	0.014	0.010	25478	510
0.4	2	4	0.060	0.013	0.009	19904	358
0.5	2	1	0.120	0.024	0.012	31847	764
0.5	2	2	0.110	0.018	0.012	28662	688
0.5	2	3	0.100	0.015	0.010	28662	573
0.5	2	4	0.100	0.012	0.008	28662	459
0.5	2	6	0.090	0.010	0.007	17834	250
0.5	2	8	0.070	0.010	0.005	12739	127
0.6	2	1	0.150	0.024	0.015	30786	924
0.6	2	2	0.150	0.018	0.014	30255	847
0.6	2	4	0.120	0.015	0.012	29724	713
0.6	2	6	0.100	0.011	0.010	26539	531
0.6	2	8	0.080	0.010	0.008	23885	382
0.6	2	10	0.080	0.010	0.006	21231	255
0.8	2	2	0.200	0.030	0.015	39809	1194
0.8	2	4	0.200	0.025	0.015	35828	1075
0.8	2	6	0.160	0.020	0.014	31847	892
0.8	2	8	0.130	0.015	0.011	27866	613
0.8	2	10	0.100	0.012	0.010	19904	398
1	2	2	0.300	0.080	0.025	33439	1672
1	2	4	0.280	0.070	0.025	28662	1433

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45				
			ae	ap	fz	S	F
1	2	6	0.250	0.035	0.022	27070	1191
1	2	8	0.220	0.030	0.021	23885	1003
1	2	10	0.200	0.020	0.020	19745	790
1	2	12	0.200	0.018	0.018	15924	573
1	2	14	0.150	0.015	0.016	12739	408
1	2	16	0.120	0.012	0.014	9554	268
1.2	2	2	0.360	0.080	0.027	31847	1720
1.2	2	4	0.350	0.070	0.025	30520	1526
1.2	2	6	0.300	0.050	0.022	29193	1285
1.2	2	8	0.270	0.032	0.021	26539	1115
1.2	2	10	0.240	0.020	0.020	23089	924
1.2	2	12	0.240	0.018	0.018	19904	717
1.2	2	14	0.200	0.015	0.016	17251	552
1.2	2	16	0.150	0.012	0.014	14597	409
1.4	2	2	0.420	0.080	0.028	31847	1783
1.4	2	4	0.420	0.070	0.028	30710	1720
1.4	2	6	0.350	0.050	0.025	29572	1479
1.4	2	8	0.310	0.032	0.024	29572	1419
1.4	2	10	0.280	0.020	0.023	26615	1224
1.4	2	12	0.280	0.018	0.021	23885	1003
1.4	2	14	0.250	0.015	0.019	21611	821
1.4	2	16	0.200	0.012	0.017	19336	657
1.5	2	2	0.450	0.090	0.030	31847	1911
1.5	2	4	0.450	0.080	0.029	30786	1786
1.5	2	6	0.400	0.060	0.026	29724	1546
1.5	2	8	0.350	0.042	0.025	29724	1486
1.5	2	10	0.300	0.030	0.024	26964	1294
1.5	2	12	0.300	0.028	0.022	24416	1074

Corner Radius Cutting Condition

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45				
			ae	ap	fz	S	F
1.5	2	14	0.260	0.025	0.020	22293	892
1.5	2	16	0.220	0.022	0.020	20170	807
1.6	2	2	0.480	0.090	0.035	29857	2090
1.6	2	4	0.480	0.080	0.033	28861	1905
1.6	2	6	0.450	0.060	0.031	27866	1728
1.6	2	8	0.420	0.042	0.030	27866	1672
1.6	2	10	0.400	0.030	0.029	25279	1466
1.6	2	12	0.360	0.028	0.027	22890	1236
1.6	2	14	0.340	0.025	0.025	20900	1045
1.6	2	16	0.320	0.022	0.023	18909	870
1.8	2	2	0.550	0.100	0.055	21231	2335
1.8	2	4	0.540	0.090	0.055	21231	2335
1.8	2	6	0.500	0.080	0.050	20701	2070
1.8	2	8	0.450	0.060	0.046	20347	1872
1.8	2	10	0.450	0.050	0.040	18577	1486
1.8	2	12	0.380	0.040	0.038	17693	1345
1.8	2	14	0.350	0.030	0.035	17339	1214
1.8	2	16	0.350	0.030	0.030	16808	1008
2	4	2	0.600	0.120	0.035	17516	2452
2	4	4	0.600	0.120	0.035	17516	2452
2	4	6	0.550	0.110	0.032	17038	2181
2	4	8	0.530	0.100	0.032	16242	2079
2	4	10	0.500	0.080	0.030	14650	1758
2	4	12	0.500	0.060	0.030	14013	1682
2	4	14	0.500	0.060	0.028	14013	1569
2	4	16	0.500	0.050	0.028	13535	1516
2	4	18	0.500	0.050	0.026	12739	1325
2	4	20	0.500	0.040	0.025	11943	1194

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC35-45				
			ae	ap	fz	S	F
2.5	4	2	0.750	0.120	0.038	16178	2459
2.5	4	6	0.750	0.120	0.035	16178	2265
2.5	4	10	0.650	0.100	0.032	14650	1875
2.5	4	12	0.600	0.070	0.032	13758	1761
2.5	4	16	0.600	0.060	0.030	12739	1529
2.5	4	20	0.600	0.050	0.028	10828	1213
3	4	6	0.900	0.120	0.038	16242	2469
3	4	10	0.850	0.120	0.035	14862	2081
3	4	12	0.800	0.100	0.035	13800	1932
3	4	16	0.800	0.070	0.032	11996	1535
3	4	20	0.800	0.060	0.030	11146	1338
3.5	4	4	1.050	0.150	0.038	16379	2490
3.5	4	10	0.980	0.150	0.035	15014	2102
3.5	4	14	0.900	0.120	0.035	11829	1656
3.5	4	20	0.900	0.120	0.030	11829	1419
4	4	8	1.200	0.200	0.045	14331	2580
4	4	12	1.000	0.180	0.040	13535	2166
4	4	16	1.000	0.150	0.038	11545	1755
4	4	20	1.000	0.150	0.032	11146	1427
5	4	10	1.500	0.250	0.050	11465	2293
5	4	15	1.400	0.200	0.045	11465	2064
5	4	20	1.250	0.180	0.040	11465	1834
5	4	25	1.250	0.150	0.035	11465	1605
6	4	12	1.800	0.300	0.060	9554	2293
6	4	18	1.600	0.250	0.050	9554	1911
6	4	25	1.500	0.220	0.045	9554	1720
6	4	30	1.500	0.180	0.040	9554	1529

Corner Radius Cutting Condition

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55				
			ae	ap	fz	S	F
0.2	2	1	0.030	0.008	0.006	38217	459
0.2	2	2	0.030	0.006	0.006	38217	459
0.2	2	3	0.020	0.004	0.005	38217	382
0.3	2	1	0.060	0.010	0.006	36093	433
0.3	2	2	0.060	0.007	0.005	35032	350
0.3	2	3	0.050	0.005	0.004	35032	280
0.4	2	1	0.080	0.015	0.008	31847	510
0.4	2	2	0.065	0.011	0.008	28662	459
0.4	2	4	0.050	0.006	0.005	28662	287
0.5	2	1	0.125	0.010	0.009	29936	539
0.5	2	2	0.110	0.009	0.008	29936	479
0.5	2	3	0.100	0.009	0.008	23567	377
0.5	2	4	0.100	0.008	0.007	22293	312
0.5	2	6	0.080	0.007	0.006	21019	252
0.5	2	8	0.050	0.005	0.004	17197	138
0.6	2	1	0.150	0.022	0.011	29193	642
0.6	2	2	0.150	0.022	0.011	29193	642
0.6	2	4	0.130	0.014	0.010	23355	467
0.6	2	6	0.110	0.010	0.010	20701	414
0.6	2	8	0.090	0.009	0.009	18577	334
0.6	2	10	0.090	0.007	0.009	17516	315
0.8	2	2	0.240	0.030	0.013	29459	766
0.8	2	4	0.240	0.030	0.013	29459	766
0.8	2	6	0.200	0.020	0.012	20701	497
0.8	2	8	0.150	0.012	0.011	19506	429
0.8	2	10	0.120	0.010	0.009	17516	315
1	2	2	0.300	0.040	0.021	29618	1244
1	2	4	0.280	0.025	0.020	28025	1121

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55				
			ae	ap	fz	S	F
1	2	6	0.200	0.017	0.020	22611	904
1	2	8	0.200	0.017	0.019	21656	823
1	2	10	0.150	0.010	0.019	19108	726
1	2	12	0.150	0.010	0.018	15605	562
1	2	14	0.150	0.008	0.017	15605	531
1	2	16	0.120	0.006	0.015	15605	468
1.2	2	2	0.360	0.040	0.021	30520	1282
1.2	2	4	0.340	0.025	0.020	29193	1168
1.2	2	6	0.240	0.017	0.020	23355	934
1.2	2	8	0.240	0.017	0.019	23355	887
1.2	2	10	0.200	0.011	0.019	19639	746
1.2	2	12	0.200	0.011	0.018	15924	573
1.2	2	14	0.200	0.008	0.017	15924	541
1.2	2	16	0.200	0.006	0.015	15924	478
1.4	2	2	0.420	0.045	0.025	26160	1308
1.4	2	4	0.420	0.033	0.023	25023	1151
1.4	2	6	0.400	0.024	0.023	21156	973
1.4	2	8	0.350	0.022	0.020	21156	846
1.4	2	10	0.350	0.019	0.020	20018	801
1.4	2	12	0.300	0.017	0.019	15696	596
1.4	2	14	0.280	0.014	0.018	15241	549
1.4	2	16	0.280	0.011	0.016	15014	480
1.5	2	2	0.450	0.045	0.025	26539	1327
1.5	2	4	0.450	0.045	0.025	26539	1327
1.5	2	6	0.400	0.042	0.023	22293	1025
1.5	2	8	0.380	0.039	0.022	20382	897
1.5	2	10	0.380	0.039	0.022	18684	822
1.5	2	12	0.350	0.039	0.020	15074	603

Corner Radius Cutting Condition

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55				
			ae	ap	fz	S	F
1.5	2	14	0.330	0.025	0.020	14437	577
1.5	2	16	0.300	0.022	0.018	14013	504
1.6	2	2	0.480	0.046	0.025	25876	1294
1.6	2	4	0.480	0.046	0.025	25876	1294
1.6	2	6	0.450	0.043	0.023	22293	1025
1.6	2	8	0.420	0.039	0.022	20701	911
1.6	2	10	0.400	0.039	0.022	18511	814
1.6	2	12	0.400	0.039	0.020	15326	613
1.6	2	14	0.400	0.025	0.020	14729	589
1.6	2	16	0.350	0.022	0.018	14729	530
1.8	2	2	0.540	0.046	0.025	23001	1150
1.8	2	4	0.540	0.046	0.025	23001	1150
1.8	2	6	0.500	0.042	0.023	22470	1034
1.8	2	8	0.470	0.039	0.022	21231	934
1.8	2	10	0.450	0.039	0.022	19462	856
1.8	2	12	0.430	0.039	0.020	15570	623
1.8	2	14	0.400	0.025	0.020	15570	623
1.8	2	16	0.380	0.022	0.018	14685	529
2	4	2	0.600	0.071	0.022	17516	1541
2	4	4	0.600	0.071	0.022	17516	1541
2	4	6	0.550	0.063	0.021	14809	1244
2	4	8	0.530	0.055	0.021	14331	1204
2	4	10	0.500	0.044	0.020	13217	1057
2	4	12	0.500	0.039	0.020	13057	1045
2	4	14	0.500	0.037	0.020	12580	1006
2	4	16	0.500	0.035	0.020	12261	981
2	4	18	0.500	0.030	0.015	11783	707
2	4	20	0.500	0.024	0.015	11783	707

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC45-55				
			ae	ap	fz	S	F
2.5	4	2	0.750	0.120	0.025	15287	1529
2.5	4	6	0.750	0.120	0.025	14013	1401
2.5	4	10	0.650	0.100	0.022	14013	1233
2.5	4	12	0.600	0.070	0.020	13376	1070
2.5	4	16	0.600	0.060	0.019	13376	1017
2.5	4	20	0.600	0.050	0.018	11847	853
3	4	6	0.900	0.120	0.026	14013	1457
3	4	10	0.900	0.110	0.024	14013	1345
3	4	12	0.800	0.090	0.022	14013	1233
3	4	16	0.700	0.070	0.020	12739	1019
3	4	20	0.600	0.060	0.018	12208	879
3.5	4	4	1.100	0.140	0.038	10009	1521
3.5	4	10	1.000	0.140	0.032	10464	1339
3.5	4	14	0.900	0.120	0.028	10009	1121
3.5	4	20	0.900	0.110	0.025	9554	955
4	4	8	1.200	0.170	0.050	8360	1672
4	4	12	1.000	0.140	0.050	7962	1592
4	4	16	0.900	0.140	0.045	7643	1376
4	4	20	0.800	0.110	0.040	7484	1197
5	4	10	1.500	0.220	0.050	8280	1656
5	4	15	1.500	0.200	0.045	8280	1490
5	4	20	1.200	0.170	0.040	7962	1274
5	4	25	1.000	0.130	0.035	7643	1070
6	4	12	1.800	0.220	0.050	6900	1380
6	4	18	1.800	0.200	0.045	6900	1242
6	4	25	1.500	0.170	0.040	6635	1062
6	4	30	1.200	0.130	0.035	6635	929

Corner Radius Cutting Condition

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65				
			ae	ap	fz	S	F
0.2	2	1	0.030	0.007	0.006	35032	420
0.2	2	2	0.030	0.006	0.006	35032	420
0.2	2	3	0.020	0.004	0.005	35032	350
0.3	2	1	0.060	0.010	0.006	33970	408
0.3	2	2	0.060	0.007	0.005	33970	340
0.3	2	3	0.050	0.004	0.004	33970	272
0.4	2	1	0.080	0.015	0.008	29459	471
0.4	2	2	0.065	0.010	0.008	26274	420
0.4	2	4	0.050	0.005	0.005	26274	263
0.5	2	1	0.125	0.018	0.009	28662	516
0.5	2	2	0.110	0.014	0.008	28662	459
0.5	2	3	0.100	0.010	0.008	22293	357
0.5	2	4	0.100	0.008	0.007	21338	299
0.5	2	6	0.080	0.005	0.006	19108	229
0.5	2	8	0.050	0.004	0.004	15924	127
0.6	2	1	0.150	0.020	0.011	27601	607
0.6	2	2	0.150	0.020	0.011	27601	607
0.6	2	4	0.130	0.013	0.010	21231	425
0.6	2	6	0.110	0.009	0.010	18577	372
0.6	2	8	0.090	0.008	0.009	18047	325
0.6	2	10	0.090	0.005	0.009	15924	287
0.8	2	2	0.240	0.030	0.013	27070	704
0.8	2	4	0.240	0.030	0.013	27070	704
0.8	2	6	0.200	0.020	0.012	19108	459
0.8	2	8	0.150	0.010	0.011	17914	394
0.8	2	10	0.120	0.009	0.009	15924	287
1	2	2	0.300	0.035	0.021	27070	1137
1	2	4	0.280	0.023	0.020	25478	1019

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65				
			ae	ap	fz	S	F
1	2	6	0.200	0.015	0.020	20701	828
1	2	8	0.200	0.015	0.019	19745	750
1	2	10	0.150	0.009	0.019	17516	666
1	2	12	0.150	0.009	0.018	14331	516
1	2	14	0.150	0.007	0.017	14331	487
1	2	16	0.120	0.005	0.015	14331	430
1.2	2	2	0.360	0.037	0.021	27866	1170
1.2	2	4	0.340	0.023	0.020	26539	1062
1.2	2	6	0.240	0.015	0.020	21231	849
1.2	2	8	0.240	0.015	0.019	21231	807
1.2	2	10	0.200	0.009	0.019	18047	686
1.2	2	12	0.200	0.009	0.018	14597	525
1.2	2	14	0.200	0.007	0.017	14597	496
1.2	2	16	0.200	0.005	0.015	14597	438
1.4	2	2	0.420	0.040	0.025	23885	1194
1.4	2	4	0.420	0.030	0.023	22748	1046
1.4	2	6	0.400	0.022	0.023	19336	889
1.4	2	8	0.350	0.020	0.020	19336	773
1.4	2	10	0.350	0.017	0.020	18198	728
1.4	2	12	0.300	0.015	0.019	14331	545
1.4	2	14	0.280	0.012	0.018	14104	508
1.4	2	16	0.280	0.010	0.016	13649	437
1.5	2	2	0.450	0.042	0.025	24416	1221
1.5	2	4	0.450	0.042	0.025	24416	1221
1.5	2	6	0.400	0.039	0.023	20170	928
1.5	2	8	0.380	0.036	0.022	18684	822
1.5	2	10	0.380	0.036	0.022	16985	747
1.5	2	12	0.350	0.036	0.020	13800	552

Corner Radius Cutting Condition

HARD MILLING TOOLS

Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65				
			ae	ap	fz	S	F
1.5	2	14	0.330	0.023	0.020	13163	527
1.5	2	16	0.300	0.020	0.018	12739	459
1.6	2	2	0.480	0.042	0.025	23885	1194
1.6	2	4	0.480	0.042	0.025	23885	1194
1.6	2	6	0.450	0.039	0.023	20303	934
1.6	2	8	0.420	0.036	0.022	18909	832
1.6	2	10	0.400	0.036	0.022	16919	744
1.6	2	12	0.400	0.036	0.020	13933	557
1.6	2	14	0.400	0.023	0.020	13336	533
1.6	2	16	0.350	0.020	0.018	12938	466
1.8	2	2	0.540	0.042	0.025	21231	1062
1.8	2	4	0.540	0.042	0.025	21231	1062
1.8	2	6	0.500	0.039	0.023	20347	936
1.8	2	8	0.470	0.036	0.022	19462	856
1.8	2	10	0.450	0.036	0.022	16808	740
1.8	2	12	0.430	0.036	0.020	14154	566
1.8	2	14	0.400	0.023	0.020	14154	566
1.8	2	16	0.380	0.020	0.018	13270	478
2	4	2	0.600	0.065	0.022	15924	1401
2	4	4	0.600	0.065	0.022	15924	1401
2	4	6	0.550	0.058	0.021	13535	1137
2	4	8	0.530	0.050	0.021	13057	1097
2	4	10	0.500	0.040	0.020	12261	981
2	4	12	0.500	0.036	0.020	11943	955
2	4	14	0.500	0.034	0.020	11465	917
2	4	16	0.500	0.032	0.020	11146	892
2	4	18	0.500	0.028	0.015	10828	650
2	4	20	0.500	0.022	0.015	10828	650

HARD MILLING TOOLS

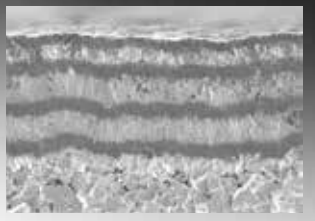
Corner radius cutting condition

Tool Dia.	No. of flutes	Eff. Length	Hardened Steel HRC55-65				
			ae	ap	fz	S	F
2.5	4	2	0.750	0.120	0.025	14013	1401
2.5	4	6	0.750	0.120	0.025	12739	1274
2.5	4	10	0.650	0.100	0.022	12739	1121
2.5	4	12	0.600	0.070	0.020	12102	968
2.5	4	16	0.600	0.060	0.019	12102	920
2.5	4	20	0.600	0.050	0.018	10828	780
3	4	6	0.900	0.120	0.026	12739	1325
3	4	10	0.900	0.110	0.024	12739	1223
3	4	12	0.800	0.080	0.022	12739	1121
3	4	16	0.700	0.060	0.020	11996	960
3	4	20	0.600	0.060	0.018	11146	803
3.5	4	4	1.100	0.130	0.038	9099	1383
3.5	4	10	1.000	0.130	0.032	9554	1223
3.5	4	14	0.900	0.120	0.028	9099	1019
3.5	4	20	0.900	0.110	0.025	8644	864
4	4	8	1.200	0.150	0.050	7564	1513
4	4	12	1.000	0.120	0.050	7166	1433
4	4	16	0.900	0.120	0.045	7006	1261
4	4	20	0.800	0.100	0.040	6847	1096
5	4	10	1.500	0.200	0.050	7643	1529
5	4	15	1.500	0.180	0.045	7643	1376
5	4	20	1.200	0.150	0.040	7325	1172
5	4	25	1.000	0.120	0.035	7006	981
6	4	12	1.800	0.200	0.050	6369	1274
6	4	18	1.800	0.180	0.045	6369	1146
6	4	25	1.500	0.150	0.040	6263	1002
6	4	30	1.200	0.120	0.035	6157	862

Corner Radius Cutting Condition

Diamond Coated Tools for Graphite Electrodes Milling

Diamond coated tools was IDI's first product line from the beginning of our company. The complexity of manufacturing diamond coated tools provided us very good experience in carbide material, tool grinding, coating and quality control techniques. Over the past 10 years, IDI has continuously improved our diamond tools by trying new materials, grinding methods, coating solutions and even tool cleaning procedures. New quality control instruments and tecniques have been implemented to ensure tool quality & performance. Today, IDI is one of the few tool makers that provide a complete product range of diamond tools with top precision and reliability. We provide both metric and Imperial unit lines ranging from 0.2-12mm and 0.010"-1/2" respectively. You can always find what you need for your graphite milling process.



Largest tool series for both metric and Imperial units and also inserts

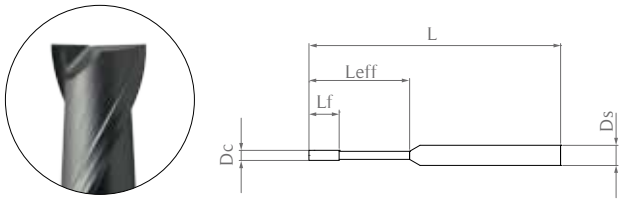
Special carbide material and diamond coating, long tool life

High precision profile of ball and bull nose tools for accurate 3D shape milling

Highest stability from solid experience and tight QC control

100% QC check before putting in stock

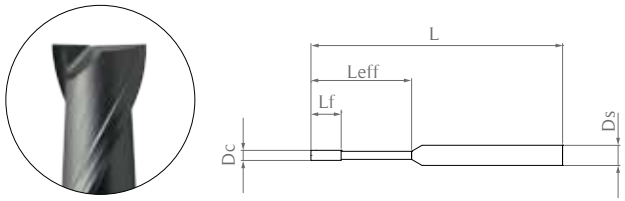
DIAMOND COATED TOOLS



unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DMS02-2-0.4-0.4-40	0.2	2	0.4	0.4	3	40
DMS03-2-0.5-0.5-40	0.3	2	0.5	0.5	3	40
DMS04-2-1-1-40	0.4	2	1	1	3	40
DMS04-2-1-2-40	0.4	2	1	2	3	40
DMS04-2-1-3-40	0.4	2	1	3	3	40
DMS04-2-1-4-40	0.4	2	1	4	3	40
DMS05-2-1-1-40	0.5	2	1	1	3	40
DMS05-2-1-4-40	0.5	2	1	4	3	40
DMS05-2-1-7-40	0.5	2	1	7	3	40
DMS05-2-1-10-40	0.5	2	1	10	3	40
DMS06-2-1-1-40	0.6	2	1	1	3	40
DMS06-2-1-5-40	0.6	2	1	5	3	40
DMS06-2-1-8-40	0.6	2	1	8	3	40
DMS06-2-1-12-40	0.6	2	1	12	3	40
DMS08-2-2-2-40	0.8	2	2	2	3	40
DMS08-2-2-7-40	0.8	2	2	7	3	40
DMS08-2-2-10-40	0.8	2	2	10	3	40
DMS08-2-2-15-40	0.8	2	2	15	3	40

DIAMOND COATED TOOLS



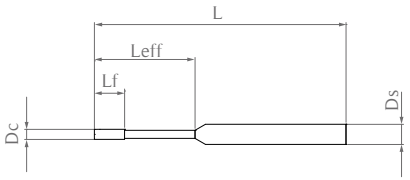
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMS1-2-2-2-50	1	2	2	2	3	50	
DMS1-2-2-6-50	1	2	2	6	3	50	
DMS1-2-2-8-50	1	2	2	8	3	50	*
DMS1-2-2-10-50	1	2	2	10	3	50	
DMS1-2-2-12-50	1	2	2	12	3	50	*
DMS1-2-2-14-50	1	2	2	14	3	50	*
DMS1-2-2-16-50	1	2	2	16	3	50	
DMS1-2-2-20-50	1	2	2	20	3	50	
DMS1-2-2-25-50	1	2	2	25	3	50	*
DMS1.2-2-2-2-50	1.2	2	2	2	3	50	
DMS1.2-2-2-6-50	1.2	2	2	6	3	50	
DMS1.2-2-2-8-50	1.2	2	2	8	3	50	*
DMS1.2-2-2-10-50	1.2	2	2	10	3	50	
DMS1.2-2-2-12-50	1.2	2	2	12	3	50	*
DMS1.2-2-2-14-50	1.2	2	2	14	3	50	*
DMS1.2-2-2-16-50	1.2	2	2	16	3	50	
DMS1.2-2-2-20-50	1.2	2	2	20	3	50	

*: modified from shorter effective length

Diamond Coated Tools
mm
Square End
2 Flute

DIAMOND COATED TOOLS

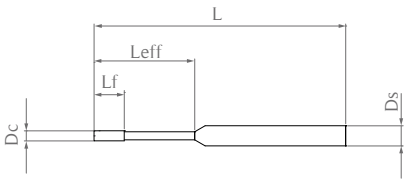


unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMS1.2-2-2-25-50	1.2	2	2	25	3	50	*
DMS1.5-2-3-6-50	1.5	2	3	6	3	50	
DMS1.5-2-3-8-50	1.5	2	3	8	3	50	*
DMS1.5-2-3-10-50	1.5	2	3	10	3	50	
DMS1.5-2-3-12-50	1.5	2	3	12	3	50	*
DMS1.5-2-3-14-50	1.5	2	3	14	3	50	*
DMS1.5-2-3-16-50	1.5	2	3	16	3	50	
DMS1.5-2-3-20-50	1.5	2	3	20	3	50	
DMS1.5-2-3-25-50	1.5	2	3	25	3	50	*
DMS2-2-6-6-50	2	2	6	6	3	50	
DMS2-2-6-10-50	2	2	6	10	3	50	
DMS2-2-6-12-50	2	2	6	12	3	50	*
DMS2-2-6-14-50	2	2	6	14	3	50	*
DMS2-2-6-16-50	2	2	6	16	3	50	
DMS2-2-6-20-50	2	2	6	20	3	50	
DMS2-2-6-25-50	2	2	6	25	3	50	*
DMS3-2-9-15-75	3	2	9	15	3	75	

*: modified from shorter effective length

DIAMOND COATED TOOLS

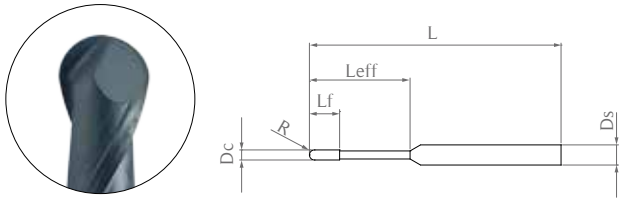


unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMS2-4-6-6-50	2	4	6	6	3	50	
DMS2-4-6-10-50	2	4	6	10	3	50	
DMS2-4-6-12-50	2	4	6	12	3	50	*
DMS2-4-6-14-50	2	4	6	14	3	50	*
DMS2-4-6-16-50	2	4	6	16	3	50	
DMS2-4-6-20-50	2	4	6	20	3	50	
DMS2-4-6-25-50	2	4	6	25	3	50	
DMS3-4-9-15-75	3	4	9	15	3	75	
DMS4-4-15-20-75	4	4	15	20	4	75	
DMS4-4-15-20-100	4	4	15	20	4	100	
DMS6-4-20-25-60	6	4	20	25	6	60	
DMS6-4-20-25-100	6	4	20	25	6	100	
DMS6-4-20-25-150	6	4	20	25	6	150	
DMS8-4-25-35-100	8	4	25	35	8	100	
DMS8-4-25-35-150	8	4	25	35	8	150	
DMS10-4-25-35-100	10	4	25	35	10	100	
DMS10-4-25-35-150	10	4	25	35	10	150	
DMS12-4-25-35-100	12	4	25	35	12	100	
DMS12-4-25-35-150	12	4	25	35	12	150	

*: modified from shorter effective length

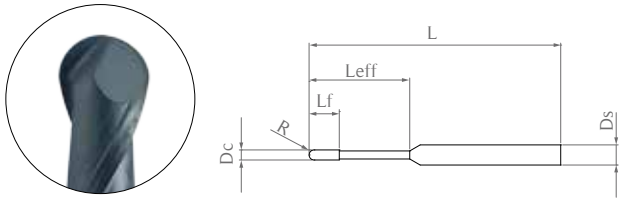
DIAMOND COATED TOOLS



unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DMB02-2-0.4-0.4-40	0.2	0.1	2	0.4	0.4	3	40
DMB03-2-0.5-0.5-40	0.3	0.15	2	0.5	0.5	3	40
DMB04-2-1-1-40	0.4	0.2	2	1	1	3	40
DMB04-2-1-2-40	0.4	0.2	2	1	2	3	40
DMB04-2-1-3-40	0.4	0.2	2	1	3	3	40
DMB04-2-1-4-40	0.4	0.2	2	1	4	3	40
DMB05-2-1-1-40	0.5	0.25	2	1	1	3	40
DMB05-2-1-4-40	0.5	0.25	2	1	4	3	40
DMB05-2-1-7-40	0.5	0.25	2	1	7	3	40
DMB05-2-1-10-40	0.5	0.25	2	1	10	3	40
DMB06-2-1-1-40	0.6	0.3	2	1	1	3	40
DMB06-2-1-5-40	0.6	0.3	2	1	5	3	40
DMB06-2-1-8-40	0.6	0.3	2	1	8	3	40
DMB06-2-1-12-40	0.6	0.3	2	1	12	3	40
DMB08-2-2-2-40	0.8	0.4	2	2	2	3	40
DMB08-2-2-7-40	0.8	0.4	2	2	7	3	40
DMB08-2-2-10-40	0.8	0.4	2	2	10	3	40
DMB08-2-2-15-40	0.8	0.4	2	2	15	3	40

DIAMOND COATED TOOLS



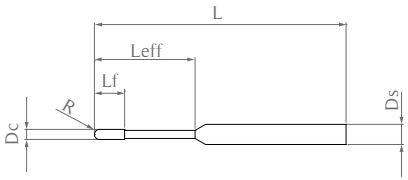
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMB1.2-2-2-6-50	1.2	0.6	2	2	6	3	50	
DMB1.2-2-2-8-50	1.2	0.6	2	2	8	3	50	*
DMB1.2-2-2-10-50	1.2	0.6	2	2	10	3	50	
DMB1.2-2-2-12-50	1.2	0.6	2	2	12	3	50	*
DMB1.2-2-2-14-50	1.2	0.6	2	2	14	3	50	*
DMB1.2-2-2-16-50	1.2	0.6	2	2	16	3	50	
DMB1.2-2-2-20-50	1.2	0.6	2	2	20	3	50	
DMB1.2-2-2-25-50	1.2	0.6	2	2	25	3	50	*
DMB1.5-2-3-6-50	1.5	0.75	2	3	6	3	50	
DMB1.5-2-3-8-50	1.5	0.75	2	3	6	3	50	*
DMB1.5-2-3-10-50	1.5	0.75	2	3	10	3	50	
DMB1.5-2-3-12-50	1.5	0.75	2	3	12	3	50	*
DMB1.5-2-3-14-50	1.5	0.75	2	3	14	3	50	*
DMB1.5-2-3-16-50	1.5	0.75	2	3	16	3	50	
DMB1.5-2-3-20-50	1.5	0.75	2	3	20	3	50	
DMB1.5-2-3-25-50	1.5	0.75	2	3	25	3	50	*
DMB2-2-6-6-50	2	1	2	6	6	3	50	
DMB2-2-6-10-50	2	1	2	6	10	3	50	

*: modified from shorter effective length

Diamond Coated Tools
mm
Ball
2 Flute

DIAMOND COATED TOOLS

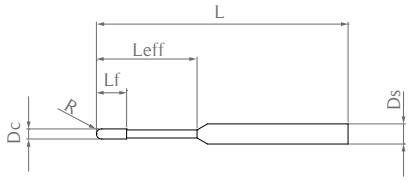


unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMB2-2-6-12-50	2	1	2	6	12	3	50	*
DMB2-2-6-14-50	2	1	2	6	14	3	50	*
DMB2-2-6-16-50	2	1	2	6	16	3	50	
DMB2-2-6-20-50	2	1	2	6	20	3	50	
DMB2-2-6-25-50	2	1	2	6	25	3	50	*
DMB3-2-9-15-75	3	1.5	2	9	15	3	50	

*: modified from shorter effective length

DIAMOND COATED TOOLS

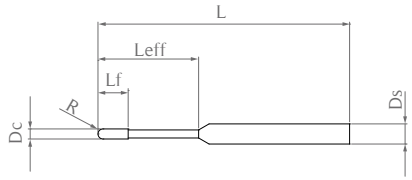


unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMB05-4-1-1-40	0.5	0.25	4	1	1	3	40	
DMB05-4-1-4-40	0.5	0.25	4	1	4	3	40	
DMB05-4-1-7-40	0.5	0.25	4	1	7	3	40	
DMB05-4-1-10-40	0.5	0.25	4	1	10	3	40	
DMB06-4-1-1-40	0.6	0.3	4	1	1	3	40	
DMB06-4-1-5-40	0.6	0.3	4	1	5	3	40	
DMB06-4-1-8-40	0.6	0.3	4	1	8	3	40	
DMB06-4-1-12-40	0.6	0.3	4	1	12	3	40	
DMB08-4-2-2-40	0.8	0.4	4	2	2	3	40	
DMB08-4-2-7-40	0.8	0.4	4	2	7	3	40	
DMB08-4-2-10-40	0.8	0.4	4	2	10	3	40	
DMB08-4-2-15-40	0.8	0.4	4	2	15	3	40	
DMB1-4-2-2-50	1	0.5	4	2	3	3	50	
DMB1-4-2-6-50	1	0.5	4	2	6	3	50	
DMB1-4-2-8-50	1	0.5	4	2	8	3	50	*
DMB1-4-2-10-50	1	0.5	4	2	10	3	50	
DMB1-4-2-12-50	1	0.5	4	2	12	3	50	*
DMB1-4-2-14-50	1	0.5	4	2	14	3	50	*

*: modified from shorter effective length

DIAMOND COATED TOOLS



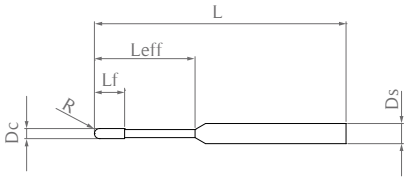
unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DMB1-4-2-16-50	1	0.5	4	2	16	3	50	
DMB1-4-2-20-50	1	0.5	4	2	20	3	50	
DMB1-4-2-25-50	1	0.5	4	2	25	3	50	*
DMB1.5-4-3-6-50	1.5	0.75	4	3	6	3	50	
DMB1.5-4-3-8-50	1.5	0.75	4	3	6	3	50	*
DMB1.5-4-3-10-50	1.5	0.75	4	3	10	3	50	
DMB1.5-4-3-12-50	1.5	0.75	4	3	12	3	50	*
DMB1.5-4-3-14-50	1.5	0.75	4	3	14	3	50	*
DMB1.5-4-3-16-50	1.5	0.75	4	3	16	3	50	
DMB1.5-4-3-20-50	1.5	0.75	4	3	20	3	50	
DMB1.5-4-3-25-50	1.5	0.75	4	3	25	3	50	*
DMB2-4-6-6-50	2	1	4	6	6	3	50	
DMB2-4-6-10-50	2	1	4	6	10	3	50	
DMB2-4-6-12-50	2	1	4	6	12	3	50	*
DMB2-4-6-14-50	2	1	4	6	14	3	50	*
DMB2-4-6-16-50	2	1	4	6	16	3	50	
DMB2-4-6-20-50	2	1	4	6	20	3	50	
DMB2-4-6-25-50	2	1	4	6	25	3	50	

*: modified from shorter effective length

Diamond Coated Tools
mm
Ball
4 Flute

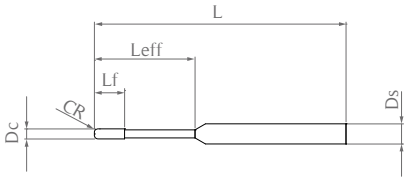
DIAMOND COATED TOOLS



unit: mm

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DMB3-4-9-15-75	3	1.5	4	9	15	3	75
DMB4-4-15-20-75	4	2	4	15	20	4	75
DMB4-4-15-20-100	4	2	4	15	20	4	100
DMB6-4-20-25-60	6	3	4	20	25	6	60
DMB6-4-20-25-100	6	3	4	20	25	6	100
DMB6-4-20-25-150	6	3	4	20	25	6	150
DMB8-4-25-35-100	8	4	4	25	35	8	100
DMB8-4-25-35-150	8	4	4	25	35	8	150
DMB10-4-25-35-100	10	5	4	25	35	10	100
DMB10-4-25-35-150	10	5	4	25	35	10	150
DMB12-4-25-35-100	12	6	4	25	35	12	100
DMB12-4-25-35-150	12	6	4	25	35	12	150

DIAMOND COATED TOOLS

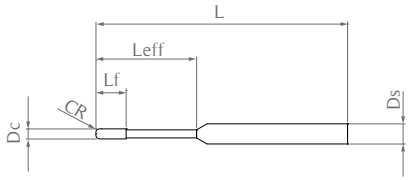


unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DMC1-2-2-2-50R0.1	1	2	2	2	0.1	3	50	
DMC1-2-2-6-50R0.1	1	2	2	6	0.1	3	50	
DMC1-2-2-8-50R0.1	1	2	2	8	0.1	3	50	*
DMC1-2-2-10-50R0.1	1	2	2	10	0.1	3	50	
DMC1-2-2-12-50R0.1	1	2	2	12	0.1	3	50	*
DMC1-2-2-14-50R0.1	1	2	2	14	0.1	3	50	*
DMC1-2-2-16-50R0.1	1	2	2	16	0.1	3	50	
DMC1-2-2-20-50R0.1	1	2	2	20	0.1	3	50	
DMC1-2-2-25-50R0.1	1	2	2	25	0.1	3	50	*
DMC1-2-2-2-50R0.2	1	2	2	2	0.2	3	50	
DMC1-2-2-6-50R0.2	1	2	2	6	0.2	3	50	
DMC1-2-2-8-50R0.2	1	2	2	8	0.2	3	50	*
DMC1-2-2-10-50R0.2	1	2	2	10	0.2	3	50	
DMC1-2-2-12-50R0.2	1	2	2	12	0.2	3	50	*
DMC1-2-2-14-50R0.2	1	2	2	14	0.2	3	50	*
DMC1-2-2-16-50R0.2	1	2	2	16	0.2	3	50	
DMC1-2-2-20-50R0.2	1	2	2	20	0.2	3	50	
DMC1-2-2-25-50R0.2	1	2	2	25	0.2	3	50	*

*: modified from shorter effective length

DIAMOND COATED TOOLS



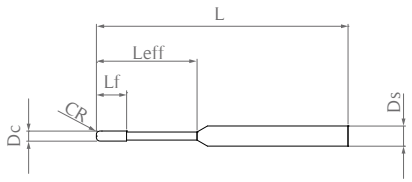
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DMC1.2-2-2-2-50R0.1	1.2	2	2	2	0.1	3	50	
DMC1.2-2-2-6-50R0.1	1.2	2	2	6	0.1	3	50	
DMC1.2-2-2-8-50R0.1	1.2	2	2	8	0.1	3	50	*
DMC1.2-2-2-10-50R0.1	1.2	2	2	10	0.1	3	50	
DMC1.2-2-2-12-50R0.1	1.2	2	2	12	0.1	3	50	*
DMC1.2-2-2-14-50R0.1	1.2	2	2	14	0.1	3	50	*
DMC1.2-2-2-16-50R0.1	1.2	2	2	16	0.1	3	50	
DMC1.2-2-2-20-50R0.1	1.2	2	2	20	0.1	3	50	
DMC1.2-2-2-25-50R0.1	1.2	2	2	25	0.1	3	50	*
DMC1.2-2-2-2-50R0.2	1.2	2	2	2	0.2	3	50	
DMC1.2-2-2-6-50R0.2	1.2	2	2	6	0.2	3	50	
DMC1.2-2-2-8-50R0.2	1.2	2	2	8	0.2	3	50	*
DMC1.2-2-2-10-50R0.2	1.2	2	2	10	0.2	3	50	
DMC1.2-2-2-12-50R0.2	1.2	2	2	12	0.2	3	50	*
DMC1.2-2-2-14-50R0.2	1.2	2	2	14	0.2	3	50	*
DMC1.2-2-2-16-50R0.2	1.2	2	2	16	0.2	3	50	
DMC1.2-2-2-20-50R0.2	1.2	2	2	20	0.2	3	50	
DMC1.2-2-2-25-50R0.2	1.2	2	2	25	0.2	3	50	*

*: modified from shorter effective length

Diamond Coated Tools
mm
Corner Radius
2 Flute

DIAMOND COATED TOOLS

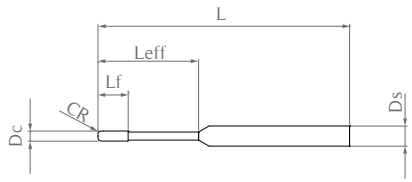


unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DMC1.5-2-3-6-50R0.2	1.5	2	3	6	0.2	3	50	
DMC1.5-2-3-8-50R0.2	1.5	2	3	8	0.2	3	50	*
DMC1.5-2-3-10-50R0.2	1.5	2	3	10	0.2	3	50	
DMC1.5-2-3-12-50R0.2	1.5	2	3	12	0.2	3	50	*
DMC1.5-2-3-14-50R0.2	1.5	2	3	14	0.2	3	50	*
DMC1.5-2-3-16-50R0.2	1.5	2	3	16	0.2	3	50	
DMC1.5-2-3-20-50R0.2	1.5	2	3	20	0.2	3	50	
DMC1.5-2-3-25-50R0.2	1.5	2	3	25	0.2	3	50	*
DMC2-2-6-6-50R0.2	2	2	6	6	0.2	3	50	
DMC2-2-6-10-50R0.2	2	2	6	10	0.2	3	50	
DMC2-2-6-12-50R0.2	2	2	6	12	0.2	3	50	*
DMC2-2-6-14-50R0.2	2	2	6	14	0.2	3	50	*
DMC2-2-6-16-50R0.2	2	2	6	16	0.2	3	50	
DMC2-2-6-20-50R0.2	2	2	6	20	0.2	3	50	
DMC2-2-6-25-50R0.2	2	2	6	25	0.2	3	50	*
DMC2-2-6-6-50R0.5	2	2	6	6	0.5	3	50	
DMC2-2-6-10-50R0.5	2	2	6	10	0.5	3	50	
DMC2-2-6-12-50R0.5	2	2	6	12	0.5	3	50	*

*: modified from shorter effective length

DIAMOND COATED TOOLS



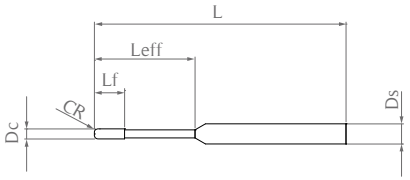
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DMC2-2-6-14-50R0.5	2	2	6	14	0.5	3	50	*
DMC2-2-6-16-50R0.5	2	2	6	16	0.5	3	50	
DMC2-2-6-20-50R0.5	2	2	6	20	0.5	3	50	
DMC2-2-6-25-50R0.5	2	2	6	25	0.5	3	50	*
DMC3-2-9-15-75R0.2	3	2	9	15	0.2	3	75	
DMC3-2-9-15-75R0.5	3	2	9	15	0.5	3	75	

*: modified from shorter effective length

Diamond Coated Tools
mm
Corner Radius
2 Flute

DIAMOND COATED TOOLS

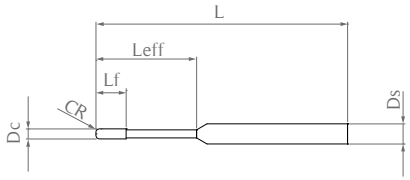


unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DMC2-4-6-6-50R0.2	2	4	6	6	0.2	3	50	
DMC2-4-6-10-50R0.2	2	4	6	10	0.2	3	50	
DMC2-4-6-12-50R0.2	2	4	6	12	0.2	3	50	*
DMC2-4-6-14-50R0.2	2	4	6	14	0.2	3	50	*
DMC2-4-6-16-50R0.2	2	4	6	16	0.2	3	50	
DMC2-4-6-20-50R0.2	2	4	6	20	0.2	3	50	
DMC2-4-6-25-50R0.2	2	4	6	25	0.2	3	50	
DMC2-4-6-6-50R0.5	2	4	6	6	0.5	3	50	
DMC2-4-6-10-50R0.5	2	4	6	10	0.5	3	50	
DMC2-4-6-12-50R0.5	2	4	6	12	0.5	3	50	*
DMC2-4-6-14-50R0.5	2	4	6	14	0.5	3	50	*
DMC2-4-6-16-50R0.5	2	4	6	16	0.5	3	50	
DMC2-4-6-20-50R0.5	2	4	6	20	0.5	3	50	
DMC2-4-6-25-50R0.5	2	4	6	25	0.5	3	50	
DMC3-4-9-15-75R0.2	3	4	9	15	0.2	3	75	
DMC3-4-9-15-75R0.5	3	4	9	15	0.5	3	75	
DMC4-4-15-20-75R0.3	4	4	15	20	0.3	4	75	
DMC4-4-15-20-100R0.3	4	4	15	20	0.3	4	100	

*: modified from shorter effective length

DIAMOND COATED TOOLS



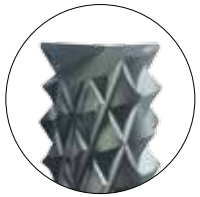
unit: mm

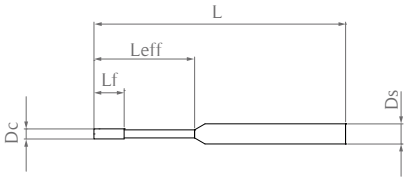
Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
DMC4-4-15-20-75R0.5	4	4	15	20	0.5	4	75
DMC4-4-15-20-100R0.5	4	4	15	20	0.5	4	100
DMC6-4-20-25-60R0.3	6	4	20	25	0.3	6	60
DMC6-4-20-25-100R0.3	6	4	20	25	0.3	6	100
DMC6-4-20-25-150R0.3	6	4	20	25	0.3	6	150
DMC6-4-20-25-60R0.5	6	4	20	25	0.5	6	60
DMC6-4-20-25-100R0.5	6	4	20	25	0.5	6	100
DMC6-4-20-25-150R0.5	6	4	20	25	0.5	6	150
DMC8-4-25-35-100R0.5	8	4	25	35	0.5	8	100
DMC8-4-25-35-150R0.5	8	4	25	35	0.5	8	150
DMC10-4-25-35-100R0.5	10	4	25	35	0.5	10	100
DMC10-4-25-35-150R0.5	10	4	25	35	0.5	10	150
DMC10-4-25-35-100R1	10	4	25	35	1	10	100
DMC10-4-25-35-150R1	10	4	25	35	1	10	150
DMC12-4-25-35-100R0.5	12	4	25	35	0.5	12	100
DMC12-4-25-35-150R0.5	12	4	25	35	0.5	12	150
DMC12-4-25-35-100R1	12	4	25	35	1	12	100
DMC12-4-25-35-150R1	12	4	25	35	1	12	150

Diamond Coated Tools
mm
Corner Radius
4 Flute

DIAMOND COATED TOOLS

Graphite DG





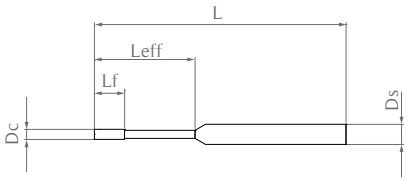
unit: mm

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DMR6-2-18-23-60	6	multiple	18	23	6	60
DMR6-2-18-23-100	6	multiple	18	23	6	100
DMR8-2-24-35-100	8	multiple	24	35	8	100
DMR10-2-25-35-100	10	multiple	25	35	10	100
DMR12-2-30-40-100	12	multiple	30	40	12	100

DIAMOND COATED TOOLS

PART NO.	Photos
RDHX0501	
RDHX0802	
SEHT1204	

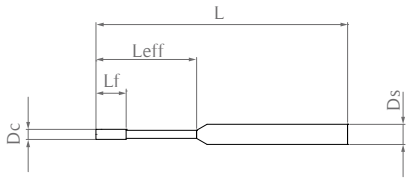
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DES0.01-2-0.02-0.05-2	0.01	2	0.02	0.05	0.125	2
DES0.01-2-0.02-0.1-2	0.01	2	0.02	0.1	0.125	2
DES0.01-2-0.02-0.15-2	0.01	2	0.02	0.15	0.125	2
DES0.02-2-0.04-0.04-2	0.02	2	0.04	0.04	0.125	2
DES0.02-2-0.04-0.1-2	0.02	2	0.04	0.1	0.125	2
DES0.02-2-0.04-0.15-2	0.02	2	0.04	0.15	0.125	2
DES0.02-2-0.04-0.25-2	0.02	2	0.04	0.25	0.125	2
DES02-2-04-04-30	1/64	2	3/64	3/64	1/8	2
DES02-2-04-10-30	1/64	2	3/64	5/32	1/8	2
DES03-2-07-07-30	1/32	2	3/32	3/32	1/8	2
DES03-2-07-13-30	1/32	2	3/32	5/16	1/8	2
DES03-2-07-16-30	1/32	2	3/32	1/2	1/8	2
DES04-2-09-09-30	3/64	2	9/64	9/64	1/8	2
DES04-2-09-13-30	3/64	2	9/64	5/16	1/8	2
DES04-2-09-16-30	3/64	2	9/64	1/2	1/8	2
DES04-2-09-20-30	3/64	2	9/64	3/4	1/8	2
DES05-2-11-11-30	1/16	2	3/16	3/16	1/8	2
DES05-2-11-14-30	1/16	2	3/16	3/8	1/8	2

DIAMOND COATED TOOLS

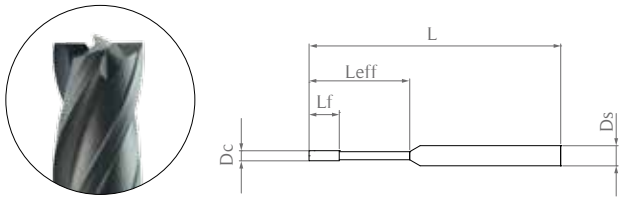


unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DES05-2-11-16-30	1/16	2	3/16	1/2	1/8	2
DES05-2-11-19-30	1/16	2	3/16	13/20	1/8	2
DES05-2-11-21-30	1/16	2	3/16	4/5	1/8	2
DES05-2-11-22-30	1/16	2	3/16	1	1/8	2

Diamond Coated Tools
inch
Squard end
2 Flute

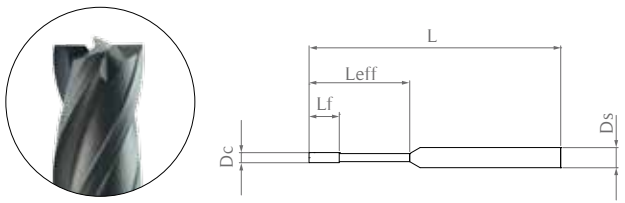
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DES03-4-07-07-30	1/32	4	3/32	3/32	1/8	2	
DES03-4-07-13-30	1/32	4	3/32	5/16	1/8	2	
DES03-4-07-16-30	1/32	4	3/32	1/2	1/8	2	
DES04-4-09-09-30	3/64	4	9/64	9/64	1/8	2	
DES04-4-09-13-30	3/64	4	9/64	5/16	1/8	2	
DES04-4-09-16-30	3/64	4	9/64	1/2	1/8	2	
DES04-4-09-20-30	3/64	4	9/64	3/4	1/8	2	
DES05-4-11-11-30	1/16	4	3/16	3/16	1/8	2	
DES05-4-11-14-30	1/16	4	3/16	3/8	1/8	2	
DES05-4-11-16-30	1/16	4	3/16	1/2	1/8	2	
DES05-4-11-19-30	1/16	4	3/16	13/20	1/8	2	
DES05-4-11-21-30	1/16	4	3/16	4/5	1/8	2	
DES05-4-11-22-30	1/16	4	3/16	1	1/8	2	
DES05-4-11-22-32	1/16	4	3/16	1	1/8	3	extra long
DES07-4-11-11-30	3/32	4	3/16	3/16	1/8	2	
DES07-4-11-14-30	3/32	4	3/16	3/8	1/8	2	
DES07-4-11-16-30	3/32	4	3/16	1/2	1/8	2	
DES07-4-11-19-30	3/32	4	3/16	13/20	1/8	2	

DIAMOND COATED TOOLS

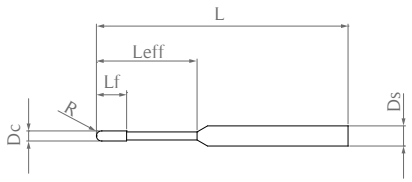


unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DES07-4-11-21-30	3/32	4	3/16	4/5	1/8	2
DES07-4-11-22-30	3/32	4	3/16	1	1/8	2
DES08-4-14-18-32	1/8	4	3/8	5/8	1/8	3
DES11-4-16-20-32	3/16	4	1/2	3/4	3/16	3
DES11-4-16-20-33	3/16	4	1/2	3/4	3/16	4
DES12-4-20-22-31	1/4	4	3/4	1	1/4	2 1/2
DES12-4-20-22-33	1/4	4	3/4	1	1/4	4
DES12-4-20-22-34	1/4	4	3/4	1	1/4	6
DES14-4-23-26-33	3/8	4	1 1/8	1 1/2	3/8	4
DES14-4-23-26-34	3/8	4	1 1/8	1 1/2	3/8	6
DES16-4-26-29-33	1/2	4	1 1/2	1 7/8	1/2	4
DES16-4-26-29-34	1/2	4	1 1/2	1 7/8	1/2	6

Diamond Coated Tools
inch
Square end
4 Flute

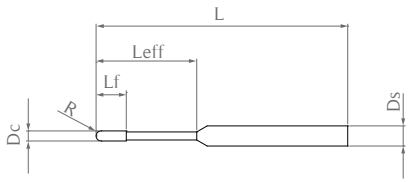
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DEB0.01-2-0.02-0.05-2	0.01	0.005	2	0.02	0.05	0.125	2
DEB0.01-2-0.02-0.1-2	0.01	0.005	2	0.02	0.1	0.125	2
DEB0.01-2-0.02-0.15-2	0.01	0.005	2	0.02	0.15	0.125	2
DEB0.02-2-0.04-0.04-2	0.02	0.01	2	0.04	0.04	0.125	2
DEB0.02-2-0.04-0.1-2	0.02	0.01	2	0.04	0.1	0.125	2
DEB0.02-2-0.04-0.15-2	0.02	0.01	2	0.04	0.15	0.125	2
DEB0.02-2-0.04-0.25-2	0.02	0.01	2	0.04	0.25	0.125	2
DEB02-2-04-04-30	1/64	1/128	2	3/64	3/64	1/8	2
DEB02-2-04-10-30	1/64	1/128	2	3/64	5/32	1/8	2
DEB03-2-07-07-30	1/32	1/64	2	3/32	3/32	1/8	2
DEB03-2-07-13-30	1/32	1/64	2	3/32	5/16	1/8	2
DEB03-2-07-16-30	1/32	1/64	2	3/32	1/2	1/8	2
DEB04-2-09-09-30	3/64	3/128	2	9/64	9/64	1/8	2
DEB04-2-09-13-30	3/64	3/128	2	9/64	5/16	1/8	2
DEB04-2-09-16-30	3/64	3/128	2	9/64	1/2	1/8	2
DEB04-2-09-20-30	3/64	3/128	2	9/64	3/4	1/8	2
DEB05-2-11-11-30	1/16	1/32	2	3/16	3/16	1/8	2
DEB05-2-11-14-30	1/16	1/32	2	3/16	3/8	1/8	2

DIAMOND COATED TOOLS

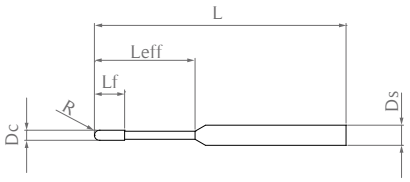


unit: inch

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DEB05-2-11-16-30	1/16	1/32	2	3/16	1/2	1/8	2
DEB05-2-11-19-30	1/16	1/32	2	3/16	13/20	1/8	2
DEB05-2-11-21-30	1/16	1/32	2	3/16	4/5	1/8	2
DEB05-2-11-22-30	1/16	1/32	2	3/16	1	1/8	2

Diamond Coated Tools
inch
Ball
2 Flute

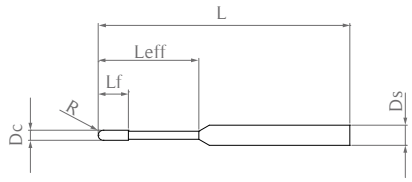
DIAMOND COATED TOOLS

unit: inch

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DEB03-4-07-07-30	1/32	1/64	4	3/32	3/32	1/8	2	
DEB03-4-07-13-30	1/32	1/64	4	3/32	5/16	1/8	2	
DEB03-4-07-16-30	1/32	1/64	4	3/32	1/2	1/8	2	
DEB04-4-09-09-30	3/64	3/128	4	9/64	9/64	1/8	2	
DEB04-4-09-13-30	3/64	3/128	4	9/64	5/16	1/8	2	
DEB04-4-09-16-30	3/64	3/128	4	9/64	1/2	1/8	2	
DEB04-4-09-20-30	3/64	3/128	4	9/64	3/4	1/8	2	
DEB05-4-11-11-30	1/16	1/32	4	3/16	3/16	1/8	2	
DEB05-4-11-14-30	1/16	1/32	4	3/16	3/8	1/8	2	
DEB05-4-11-16-30	1/16	1/32	4	3/16	1/2	1/8	2	
DEB05-4-11-19-30	1/16	1/32	4	3/16	13/20	1/8	2	
DEB05-4-11-21-30	1/16	1/32	4	3/16	4/5	1/8	2	
DEB05-4-11-22-30	1/16	1/32	4	3/16	1	1/8	2	
DEB05-4-11-22-32	1/16	1/32	4	3/16	1	1/8	3	extra long
DEB07-4-11-11-30	3/32	3/64	4	3/16	3/16	1/8	2	
DEB07-4-11-14-30	3/32	3/64	4	3/16	3/8	1/8	2	
DEB07-4-11-16-30	3/32	3/64	4	3/16	1/2	1/8	2	
DEB07-4-11-19-30	3/32	3/64	4	3/16	13/20	1/8	2	
DEB07-4-11-21-30	3/32	3/64	4	3/16	4/5	1/8	2	

DIAMOND COATED TOOLS

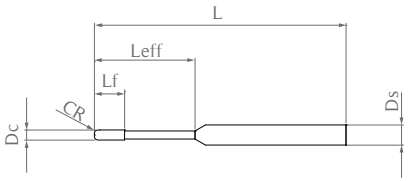


unit: inch

Part No.	Cutting Dia. Dc	Cutting Radius R	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L	
DEB07-4-11-22-30	3/32	3/64	4	3/16	1	1/8	2	
DEB08-4-08-18-32	1/8	1/16	4	1/8	3/8	1/8	3	stub flute
DEB08-4-14-18-32	1/8	1/16	4	3/8	5/8	1/8	3	
DEB11-4-16-20-32	3/16	3/32	4	1/2	3/4	3/16	3	
DEB11-4-16-20-33	3/16	3/32	4	1/2	3/4	3/16	4	
DEB12-4-12-22-31	1/4	1/8	4	1/4	1	1/4	2 1/2	stub flute
DEB12-4-20-22-31	1/4	1/8	4	3/4	1	1/4	2 1/2	
DEB12-4-12-22-33	1/4	1/8	4	1/4	1	1/4	4	stub flute
DEB12-4-20-22-33	1/4	1/8	4	3/4	1	1/4	4	
DEB12-4-20-22-34	1/4	1/8	4	3/4	1	1/4	6	
DEB14-4-23-26-33	3/8	3/16	4	1 1/8	1 1/2	3/8	4	
DEB14-4-23-26-34	3/8	3/16	4	1 1/8	1 1/2	3/8	6	
DEB16-4-26-29-33	1/2	1/4	4	1 1/2	1 7/8	1/2	4	
DEB16-4-26-29-34	1/2	1/4	4	1 1/2	1 7/8	1/2	6	

Diamond Coated Tools
inch
Ball
4 Flute

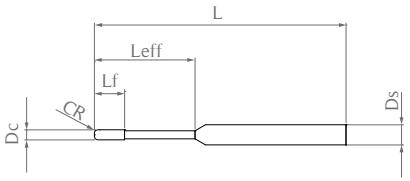
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
DEC04-2-09-09-30/010	3/64	2	9/64	9/64	0.01	1/8	2
DEC04-2-09-13-30/010	3/64	2	9/64	5/16	0.01	1/8	2
DEC04-2-09-16-30/010	3/64	3	9/64	1/2	0.01	1/8	2
DEC04-2-09-20-30/010	3/64	4	9/64	3/4	0.01	1/8	2
DEC05-2-11-11-30/010	1/16	2	3/16	3/16	0.01	1/8	2
DEC05-2-11-14-30/010	1/16	2	3/16	3/8	0.01	1/8	2
DEC05-2-11-16-30/010	1/16	2	3/16	1/2	0.01	1/8	2
DEC05-2-11-19-30/010	1/16	2	3/16	13/20	0.01	1/8	2
DEC05-2-11-21-30/010	1/16	2	3/16	4/5	0.01	1/8	2
DEC05-2-11-22-30/010	1/16	2	3/16	1	0.01	1/8	2

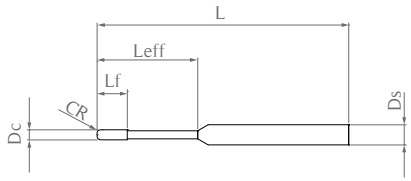
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DEC03-4-07-07-30/005	1/32	4	3/32	3/32	0.005	1/8	2	
DEC03-4-07-13-30/005	1/32	4	3/32	5/16	0.005	1/8	2	
DEC03-4-07-16-30/005	1/32	4	3/32	1/2	0.005	1/8	2	
DEC04-4-09-09-30/010	3/64	4	9/64	9/64	0.01	1/8	2	
DEC04-4-09-13-30/010	3/64	4	9/64	5/16	0.01	1/8	2	
DEC04-4-09-16-30/010	3/64	4	9/64	1/2	0.01	1/8	2	
DEC04-4-09-20-30/010	3/64	4	9/64	3/4	0.01	1/8	2	
DEC05-4-11-11-30/010	1/16	4	3/16	3/16	0.01	1/8	2	
DEC05-4-11-14-30/010	1/16	4	3/16	3/8	0.01	1/8	2	
DEC05-4-11-16-30/010	1/16	4	3/16	1/2	0.01	1/8	2	
DEC05-4-11-19-30/010	1/16	4	3/16	13/20	0.01	1/8	2	
DEC05-4-11-21-30/010	1/16	4	3/16	4/5	0.01	1/8	2	
DEC05-4-11-22-30/010	1/16	4	3/16	1	0.01	1/8	2	
DEC05-4-11-22-32/010	1/16	4	3/16	1	0.01	1/8	3	extra long
DEC05-4-11-11-30/015	1/16	4	3/16	3/16	0.015	1/8	2	
DEC05-4-11-14-30/015	1/16	4	3/16	3/8	0.015	1/8	2	
DEC05-4-11-16-30/015	1/16	4	3/16	1/2	0.015	1/8	2	
DEC05-4-11-19-30/015	1/16	4	3/16	13/20	0.015	1/8	2	

DIAMOND COATED TOOLS

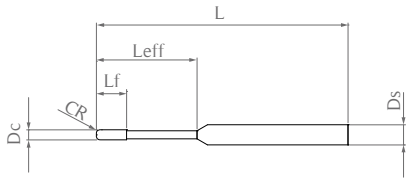


unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L	
DEC05-4-11-21-30/015	1/16	4	3/16	4/5	0.015	1/8	2	
DEC05-4-11-22-30/015	1/16	4	3/16	1	0.015	1/8	2	
DEC05-4-11-22-32/015	1/16	4	3/16	1	0.015	1/8	3	extra long
DEC05-4-11-22-32/020	1/16	4	3/16	1	0.02	1/8	3	extra long
DEC07-4-11-11-30/010	3/32	4	3/16	3/16	0.01	1/8	2	
DEC07-4-11-14-30/010	3/32	4	3/16	3/8	0.01	1/8	2	
DEC07-4-11-16-30/010	3/32	4	3/16	1/2	0.01	1/8	2	
DEC07-4-11-19-30/010	3/32	4	3/16	13/20	0.01	1/8	2	
DEC07-4-11-21-30/010	3/32	4	3/16	4/5	0.01	1/8	2	
DEC07-4-11-22-30/010	3/32	4	3/16	1	0.01	1/8	2	
DEC07-4-11-11-30/015	3/32	4	3/16	3/16	0.015	1/8	2	
DEC07-4-11-14-30/015	3/32	4	3/16	3/8	0.015	1/8	2	
DEC07-4-11-16-30/015	3/32	4	3/16	1/2	0.015	1/8	2	
DEC07-4-11-19-30/015	3/32	4	3/16	13/20	0.015	1/8	2	
DEC07-4-11-21-30/015	3/32	4	3/16	4/5	0.015	1/8	2	
DEC07-4-11-22-30/015	3/32	4	3/16	1	0.015	1/8	2	
DEC08-4-14-18-32/015	1/8	4	3/8	5/8	0.015	1/8	3	
DEC08-4-14-18-32/030	1/8	4	3/8	5/8	0.03	1/8	3	
DEC11-4-16-20-32/020	3/16	4	1/2	3/4	0.02	3/16	3	

Diamond Coated Tools
inch
Corner Radius
4 Flute

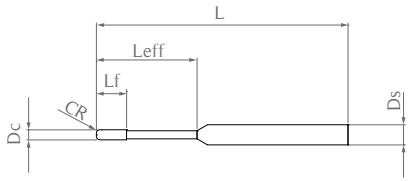
DIAMOND COATED TOOLS



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
DEC11-4-16-20-33/015	3/16	4	1/2	3/4	0.015	3/16	4
DEC11-4-16-20-33/020	3/16	4	1/2	3/4	0.02	3/16	4
DEC11-4-16-20-33/030	3/16	4	1/2	3/4	0.03	3/16	4
DEC11-4-16-20-33/060	3/16	4	1/2	3/4	0.06	3/16	4
DEC12-4-20-22-31/015	1/4	4	3/4	1	0.015	1/4	2 1/2
DEC12-4-20-22-31/020	1/4	4	3/4	1	0.02	1/4	2 1/2
DEC12-4-20-22-31/030	1/4	4	3/4	1	0.03	1/4	2 1/2
DEC12-4-20-22-31/060	1/4	4	3/4	1	0.06	1/4	2 1/2
DEC12-4-20-22-33/015	1/4	4	3/4	1	0.015	1/4	4
DEC12-4-20-22-33/020	1/4	4	3/4	1	0.02	1/4	4
DEC12-4-20-22-33/030	1/4	4	3/4	1	0.03	1/4	4
DEC12-4-20-22-33/060	1/4	4	3/4	1	0.06	1/4	4
DEC12-4-20-22-34/020	1/4	4	3/4	1	0.02	1/4	6
DEC14-4-23-26-33/030	3/8	4	1 1/8	1 1/2	0.03	3/8	4
DEC14-4-23-26-33/040	3/8	4	1 1/8	1 1/2	0.04	3/8	4
DEC14-4-23-26-33/060	3/8	4	1 1/8	1 1/2	0.06	3/8	4
DEC14-4-23-26-34/030	3/8	4	1 1/8	1 1/2	0.03	3/8	6
DEC14-4-23-26-34/040	3/8	4	1 1/8	1 1/2	0.04	3/8	6

DIAMOND COATED TOOLS



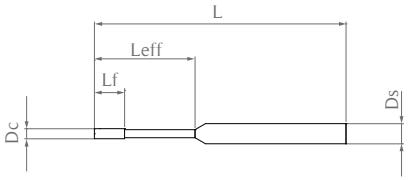
unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Corner Radius CR	Shank Dia. Ds	Overall Length L
DEC14-4-23-26-34/060	3/8	4	1 1/8	1 1/2	0.06	3/8	6
DEC16-4-26-29-33/030	1/2	4	1 1/2	1 7/8	0.03	1/2	4
DEC16-4-26-29-33/040	1/2	4	1 1/2	1 7/8	0.04	1/2	4
DEC16-4-26-29-33/060	1/2	4	1 1/2	1 7/8	0.06	1/2	4
DEC16-4-26-29-34/030	1/2	4	1 1/2	1 7/8	0.03	1/2	6
DEC16-4-26-29-34/040	1/2	4	1 1/2	1 7/8	0.04	1/2	6
DEC16-4-26-29-34/060	1/2	4	1 1/2	1 7/8	0.06	1/2	6

Diamond Coated Tools
inch
Corner Radius
4 Flute

DIAMOND COATED TOOLS

Graphite DG



unit: inch

Part No.	Cutting Dia. Dc	No. of Flute	Flute Length Lf	Effective Length Leff.	Shank Dia. Ds	Overall Length L
DER12-2-20-22-31	1/4	multiple	3/4	1	1/4	2 1/2
DER12-2-20-22-33	1/4	multiple	3/4	1	1/4	4
DER14-2-23-26-33	3/8	multiple	1 1/8	1 1/2	3/8	4
DER16-2-26-29-33	1/2	multiple	1 1/2	1 7/8	1/2	4

Principle of use

Always keep enough feed per tooth. Try to keep fz larger than 0.07mm/tooth but blow 0.15mm/tooth to keep the tool from chipping. The larger feed per tooth, the longer tool life you will get. According to our experiment, you may lose 60% tool life if fz is too small.

Formula:

fz=F/S/Z

fz: feed per tooth(mm/tooth)

F: feed rate (mm/min.)

S: spindle speed (rpm)

Z: number of flutes

Example:

F: 2000mm/min.

S: 5000rpm

Z=4 (four flutes)

fz=2000/5000/4=0.1mm/tooth

Customer Examples

Graphite Roughing:

Tool: D13R2.5, RDHX0501 diamond coated inserts

Spindle speed: 5000 rpm

Feed rate: 4000 mm/min.

Graphite: POCO EDM200

ap=0.5mm, ae=7mm

Tool life: 3-4 hours/day, two inserts last about 40 work days

Graphite Finishing:

Tool: DMB4-4-15-20-75 4mm ball nose end mill

Spindle speed: 6000 rpm

Feed rate: 2400 mm/min.

Graphite: for semiconductor use, Shore hardness over 70

ae=0.1mm

Tool life: over 15 times of TiALN coated tools

Ceramic Finishing:

Tool: DMB1-2-2-16-50 1mm ball nose end mill

Spindle speed: 25000rpm

Feed rate: 500 mm/min.

Ceramic: zirconia for dental use

Tool life: over 50 times of TiALN coated tools

Dimension Code

Code No.	inch	inch	mm
01	1/128	0.0078	0.1984
02	1/64	0.0156	0.3969
03	1/32	0.0313	0.7938
04	3/64	0.0469	1.1906
05	1/16	0.0625	1.5875
06	5/64	0.0781	1.9844
07	3/32	0.0938	2.3813
08	1/8	0.1250	3.175
09	9/64	0.1406	3.5719
10	5/32	0.1563	3.9688
11	3/16	0.1875	4.7625
12	1/4	0.2500	6.35
13	5/16	0.3125	7.9375
14	3/8	0.3750	9.525
15	7/16	0.4375	11.1125
16	1/2	0.5000	12.7
17	9/16	0.5625	14.2875
18	5/8	0.6250	15.875
19	13/20	0.6500	16.51
20	3/4	0.7500	19.05
21	4/5	0.8000	20.32
22	1	1.0000	25.4
23	1 1/8	1.1250	28.575
24	1 1/4	1.2500	31.75
25	1 3/8	1.3750	34.925
26	1 1/2	1.5000	38.1
27	1 5/8	1.6250	41.275
28	1 3/4	1.7500	44.45
29	1 7/8	1.8750	47.625

DIAMOND COATED TOOLS

Dimension Code

Dimension Code

Code No.	inch	inch	mm
30	2	2.0000	50.8
31	2 1/2	2.5000	63.5
32	3	3.0000	76.2
33	4	4.0000	101.6
34	6	6.0000	152.4

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