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OKE CUTTING TOOLS CO., LTD ✓

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Domestic Sales Hotline

◎ **0731-22673808** (CNC cutting tools)

◎ **0731-22673988** (Saw tips)

International Sales Hotline

◎ **0086-731-27577393** ✓

SOLID CARBIDE END MILL AND DRILL



High performance
universal End Mill



△ High quality
CNC cutting tools

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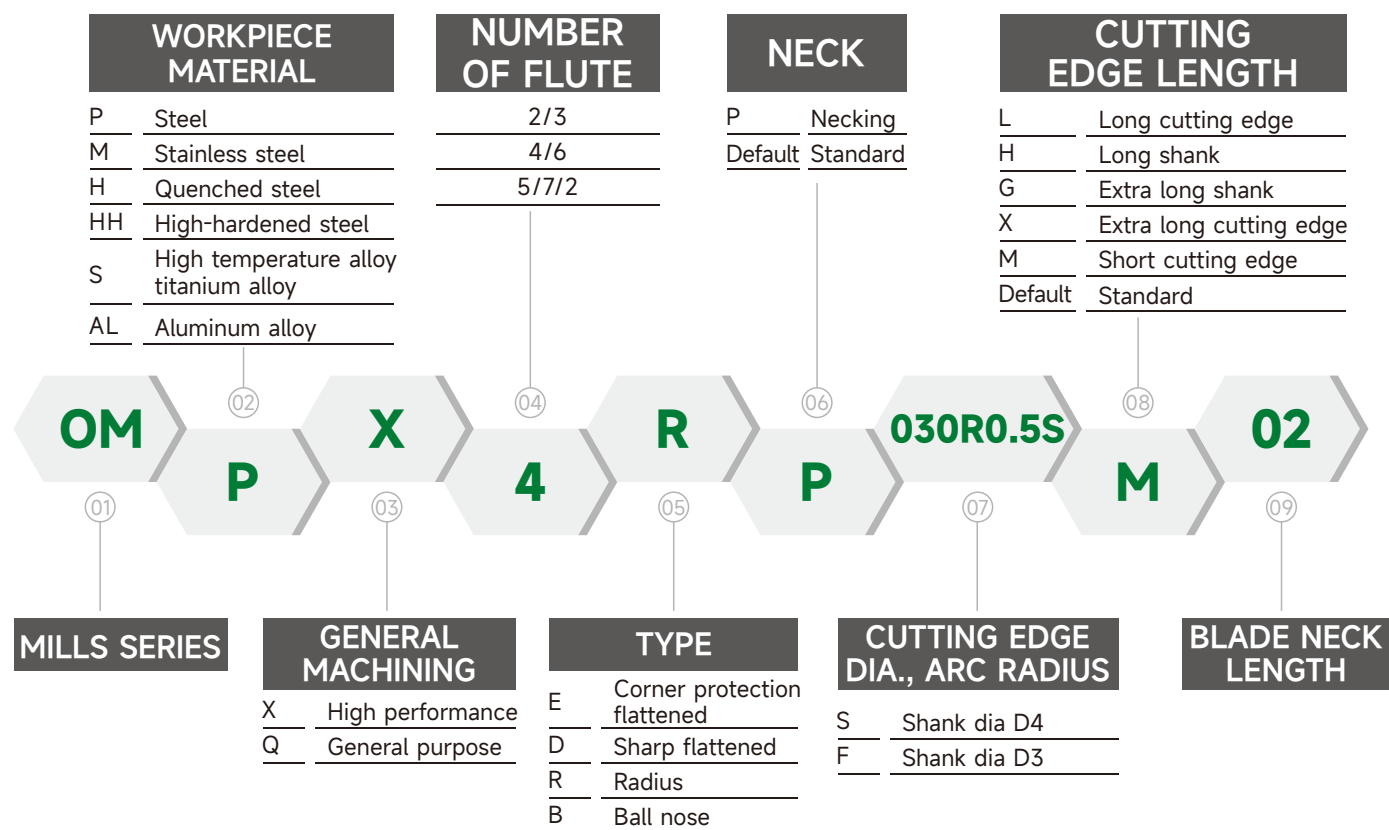
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➤ SOLID END MILLS AND DRILLS NAMING RULES

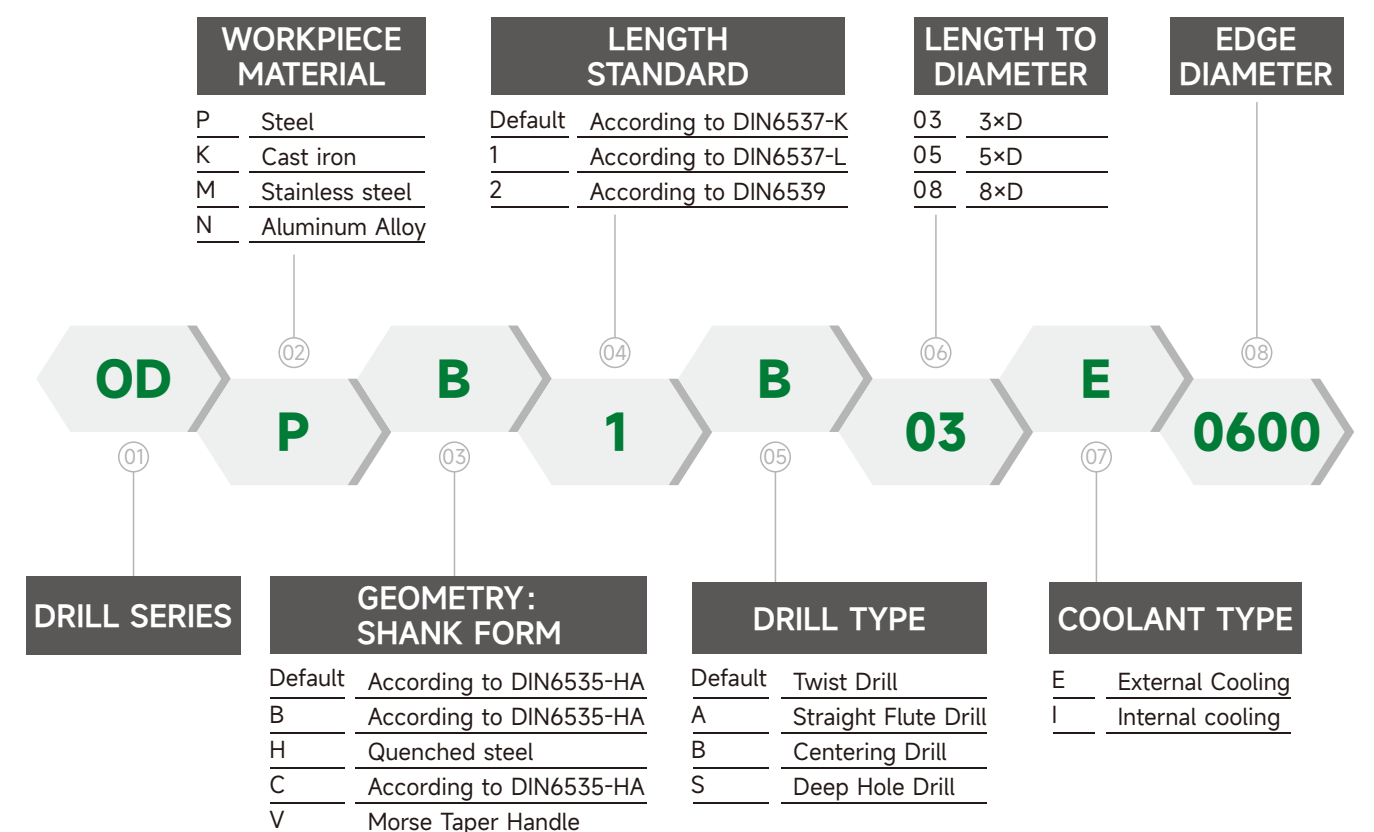


OKE 欧科亿

01 | Standard Solid End Mills Naming Rules



Standard Solid Drills Naming Rules | 02



➤ COATING INSTRUCTIONS

COATING NAME	COATING HARDNESS(HV)	COATING COLOR	MAXIMUM APPLICABLE TEMPERATURE(°C)	RECOMMENDED PROCESSING MATERIALS
EM	3500	Gray-black	1000	Suitable for 38°inner mold steel stainless steel
EL	2900	Grey	900	Extremely versatile,suitable for ordinary steel and molds below 55 HRC Various milling processes of steel and titanium alloys
EA	3100	Grey blue	1100	Suitable for milling of 45-55HRC steel parts
ES	4300	Bronz	1000	Especially suitable for milling of high hardness steel with 55-65 HRC
EG	3600	Grey	1250	uitable for processing high temperature alloys and titanium alloys
EH	1700	Purple red	1100	Suitable for rough machining of stainless steel
ED	5000	Rainbow	500	Suitable for aluminum alloy and copper alloy processing
DH	3500	Bronz	1300	Special coating for drills



➤ Identification Instructions

IDENTIFICATION		INSTRUCTIONS	IDENTIFICATION		INSTRUCTIONS	IDENTIFICATION		INSTRUCTIONS
Shank type		ISO standard shank	Helical angle		Left 20°helical Angle	Helical angle		Double-helical angles
		ISO standard shank			15°Helical angle			Double-helical angles
		DIN6535HA shank			20°Helical angle			Double-helical angles
Coating		AlCrN coating			28°Helical angle			Double-helical angles
		AlCrSiN coating			30°Helical angle			Double-helical angles
		TiAlN coating			Helical angle			Double-helical angles
		AlTiN nano coating			38°Helical angle	End tooth type		Flat
		AlCrN/TiSiN multi-layer coating			40°Helical angle			Corner radius
		AlTiN/TiSiN nano multi-layer coating			45°Helical angle			Ball nose
		TiAlCrSiN coating			Unequal helical angle			Chamfered corner
		TiAlSiN coating	Number of flute		1-flute end mills			Chamfer
		Coarse grain diamond coating			2-flute end mills	Workpiece material		Steel
		Ultra-fine grain diamond coating			3-flute end mills			Stainless steel
Nose corner type		Corner protection flattened			4-flute end mills			Cast iron
		Corner flattened			5-flute end mills			Aluminum alloy
length and diameter ratio		3 times diameter	Type		External cooling twist drills			High temperature alloy/ Titanium alloy
		5 times diameter			Internal cooling twist drills			High-hardened steel

OMPQ SERIES FOR GENERAL MACHINING



OKE 欧科亿

OMPQ

Product series

Product series

OMPQ Series For General Machining

Ordinary
chip breakerUpgraded c
hip breaker

Curved flank
structure that takes
both edge strength
and wear resistance
into consideration

The newly upgraded chip breaker not only ensures sufficient chip space, but also improves the strength and rigidity of the peripheral edge. It is suitable for finishing from finishing to roughing, and the tool performance is more comprehensive.



APPLICATION CASES

Milling method	Machine Tool	Cooling method	Workpiece material	HRC
side milling	Taiwan Express(M-1612)	water-soluble emulsion	NAK80	HRC40

Cutting parameters

Rotating speed(N)	7500r/min	Feed rate(F)	2500mm/min	AP	10mm	AE	0.5mm
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Machine tool
processing drawing



Machined parts



Tool life comparison

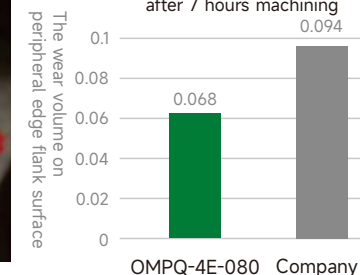
OMPQ-4E-080 has less wear and tear, and its lifespan is 38% higher than company A's products.

OMPQ-4E-080

Products of company A

Comparative Analysis
of Wear Volume

Wear of peripheral edge
after 7 hours machining

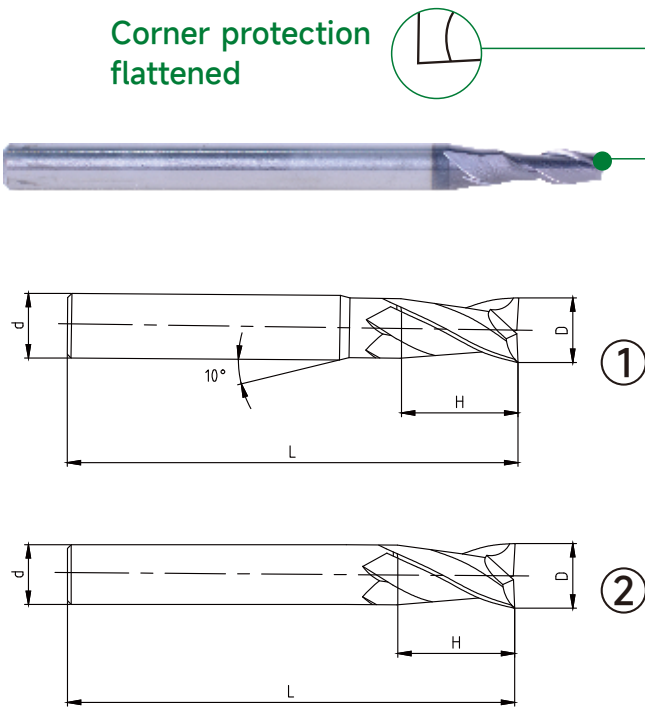


OMPQ-2E01

2-Flute Straight Shank
Flat End Mills

- Able to achieve various processing of slot milling, side milling, drilling and milling
- Wide application

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-2E-010S	1.0	4	3	50	2	①	●
OMPQ-2E-015S	1.5	4	4	50	2	①	●
OMPQ-2E-020S	2.0	4	6	50	2	①	●
OMPQ-2E-025S	2.5	4	8	50	2	①	●
OMPQ-2E-030S	3.0	4	8	50	2	①	●
OMPQ-2E-040S	4.0	4	11	50	2	②	●
OMPQ-2E-010	1.0	6	3	50	2	①	●
OMPQ-2E-015	1.5	6	4	50	2	①	●
OMPQ-2E-020	2.0	6	6	50	2	①	●
OMPQ-2E-025	2.5	6	8	50	2	①	●
OMPQ-2E-030	3.0	6	8	50	2	①	●
OMPQ-2E-035	3.5	6	10	50	2	①	●
OMPQ-2E-040	4.0	6	11	50	2	①	●
OMPQ-2E-045	4.5	6	11	50	2	①	●
OMPQ-2E-050	5.0	6	13	50	2	①	●
OMPQ-2E-055	5.5	6	16	50	2	①	●
OMPQ-2E-060	6.0	6	16	50	2	②	●
OMPQ-2E-070	7.0	8	20	60	2	①	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-2E-080	8.0	8	20	60	2	②	●
OMPQ-2E-090	9.0	10	22	75	2	①	●
OMPQ-2E-100	10.0	10	25	75	2	②	●
OMPQ-2E-110	11.0	12	26	75	2	①	●
OMPQ-2E-120	12.0	12	30	75	2	②	●
OMPQ-2E-140	14.0	14	32	75	2	②	●
OMPQ-2E-160	16.0	16	45	100	2	②	●
OMPQ-2E-180	18.0	18	45	100	2	②	●
OMPQ-2E-200	20.0	20	45	100	2	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC ◎ Very Suitable ○ Suitable											



OMPQ-2EL

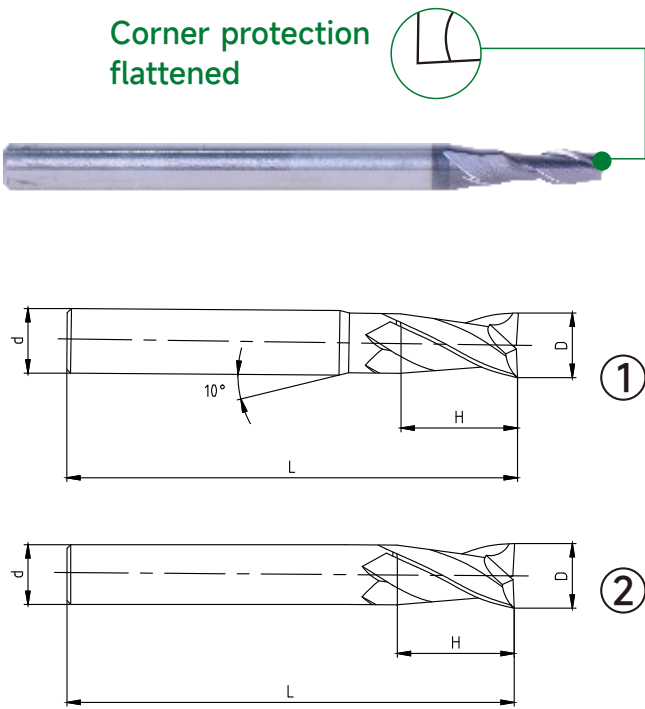
02

2-Flute Fattened End Mills

With Long Cutting Edge

- Able to achieve various processing of slot milling, side milling, drilling and milling
- Wide application

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-2E-030L	3.0	6	12	75	2	①	●
OMPQ-2E-040L	4.0	6	15	75	2	①	●
OMPQ-2E-050L	5.0	6	20	75	2	①	●
OMPQ-2E-060L	6.0	6	20	75	2	②	●
OMPQ-2E-080L	8.0	8	25	100	2	②	●
OMPQ-2E-100L	10.0	10	30	100	2	②	●
OMPQ-2E-120L	12.0	12	35	100	2	②	●
OMPQ-2E-140L	14.0	14	40	100	2	②	●
OMPQ-2E-160L	16.0	16	50	150	2	②	●
OMPQ-2E-200L	20.0	20	55	150	2	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC ◎ Very Suitable ○ Suitable											

OMPQ-2E/2EL Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
1	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
2	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
3	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
4	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
6	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
8	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
10	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
12	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
16	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
20	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330

- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in the case of side milling.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

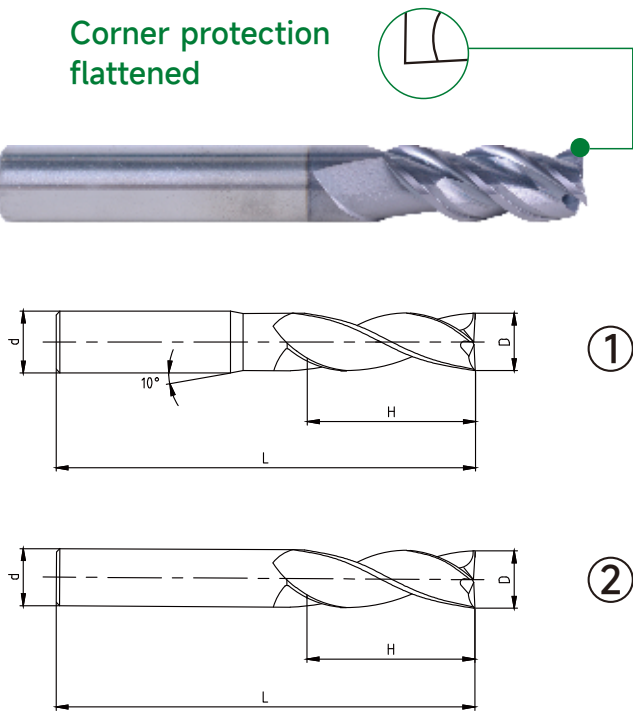


OMPQ-3E03

3-Flute Straight Shank
Flat End Mills

Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-3E-010S	1.0	4	3	50	3	①	●
OMPQ-3E-015S	1.5	4	4	50	3	①	●
OMPQ-3E-020S	2.0	4	6	50	3	①	●
OMPQ-3E-025S	2.5	4	8	50	3	①	●
OMPQ-3E-030S	3.0	4	8	50	3	①	●
OMPQ-3E-040S	4.0	4	11	50	3	②	●
OMPQ-3E-010	1.0	6	3	50	3	①	●
OMPQ-3E-015	1.5	6	4	50	3	①	●
OMPQ-3E-020	2.0	6	6	50	3	①	●
OMPQ-3E-025	2.5	6	8	50	3	①	●
OMPQ-3E-030	3.0	6	8	50	3	①	●
OMPQ-3E-035	3.5	6	10	50	3	①	●
OMPQ-3E-040	4.0	6	11	50	3	①	●
OMPQ-3E-045	4.5	6	11	50	3	①	●
OMPQ-3E-050	5.0	6	13	50	3	①	●
OMPQ-3E-055	5.5	6	16	50	3	①	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-3E-060	6.0	6	16	50	3	②	●
OMPQ-3E-070	7.0	8	20	60	3	①	●
OMPQ-3E-080	8.0	8	20	60	3	②	●
OMPQ-3E-090	9.0	10	22	75	3	①	●
OMPQ-3E-100	10.0	10	25	75	3	②	●
OMPQ-3E-110	11.0	12	26	75	3	①	●
OMPQ-3E-120	12.0	12	30	75	3	②	●
OMPQ-3E-140	14.0	14	32	75	3	②	●
OMPQ-3E-160	16.0	16	45	100	3	②	●
OMPQ-3E-180	18.0	18	45	100	3	②	●
OMPQ-3E-200	20.0	20	45	100	3	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-3EL

04

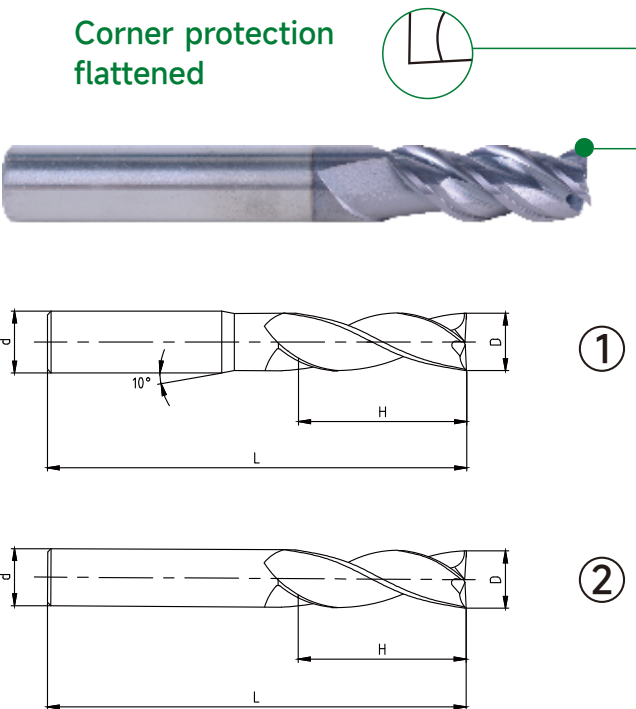
3-Flute Fattened End Mills

With Long Cutting Edge

Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:

D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-3E-030L	3.0	6	12	75	3	①	●
OMPQ-3E-040L	4.0	6	15	75	3	①	●
OMPQ-3E-050L	5.0	6	20	75	3	①	●
OMPQ-3E-060L	6.0	6	20	75	3	②	●
OMPQ-3E-080L	8.0	8	25	100	3	②	●
OMPQ-3E-100L	10.0	10	30	100	3	②	●
OMPQ-3E-120L	12.0	12	35	100	3	②	●
OMPQ-3E-140L	14.0	14	40	100	3	②	●
OMPQ-3E-160L	16.0	16	50	150	3	②	●
OMPQ-3E-200L	20.0	20	55	150	3	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL									
Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy
		~40	~50	~55	~68				
◎	◎	◎	○			○	◎		

Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-3E/3EL Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
	Diameter (mm)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)
1	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
2	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
3	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
4	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
6	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
8	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
10	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
12	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420
16	3000	1050	3000	1050	2400	800	2000	600	1350	380	1600	375
20	2400	950	2400	950	1900	680	1600	560	1100	370	1250	330

- ◎ The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- ◎ Please select high-precision machine and tool holder.
- ◎ Please use air blow or cutting liquid with high mist retardant property.
- ◎ Down milling is recommended in the case of side milling.
- ◎ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ◎ Make overhang of tool as short as possible in conditions of non-interference.

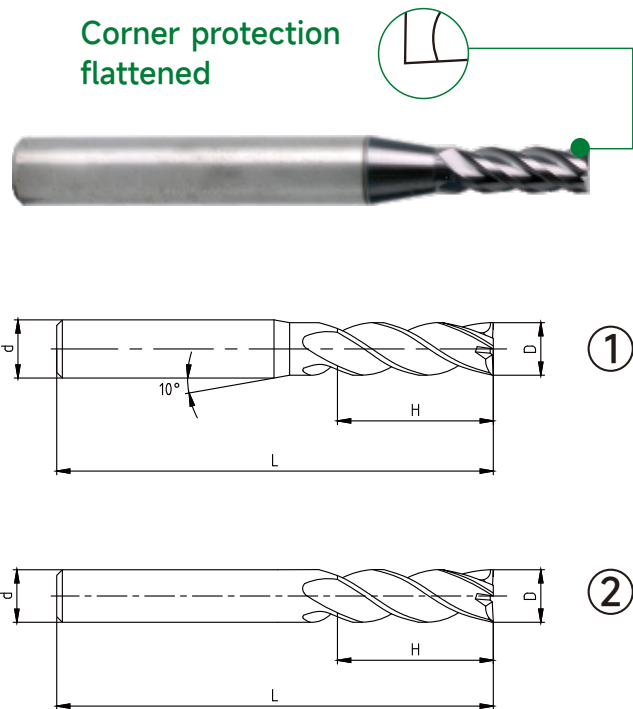


OMPQ-4E05

4-Flute Straight Shank
Flat End Mills

- Suitable for side milling and shallow slot machining
- Wide application

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-010F	1.0	3	3	50	4	①	▲
OMPQ-4E-010S	1.0	4	3	50	4	①	●
OMPQ-4E-010	1.0	6	3	50	4	①	●
OMPQ-4E-015F	1.5	3	4	50	4	①	▲
OMPQ-4E-015S	1.5	4	4	50	4	①	●
OMPQ-4E-015	1.5	6	4	50	4	①	●
OMPQ-4E-020F	2.0	3	6	50	4	①	▲
OMPQ-4E-020S	2.0	4	6	50	4	①	●
OMPQ-4E-020	2.0	6	6	50	4	①	●
OMPQ-4E-025F	2.5	3	8	50	4	①	▲
OMPQ-4E-025S	2.5	4	8	50	4	①	●
OMPQ-4E-025	2.5	6	8	50	4	①	●
OMPQ-4E-030F	3.0	3	8	50	4	②	▲
OMPQ-4E-030S	3.0	4	8	50	4	①	●
OMPQ-4E-030	3.0	6	8	50	4	①	●
OMPQ-4E-035S	3.5	4	10	50	4	①	●
OMPQ-4E-035	3.5	6	10	50	4	①	●
OMPQ-4E-040S	4.0	4	11	50	4	①	●

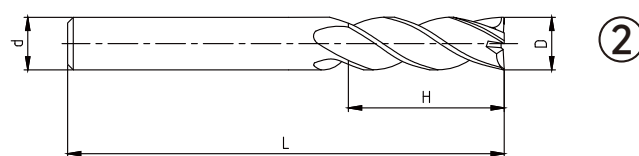
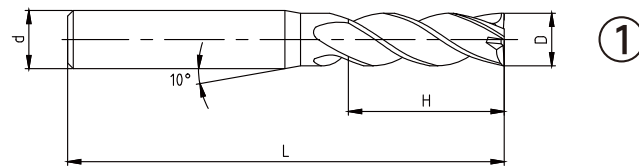
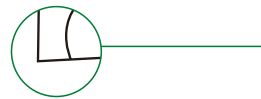
TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-040	4.0	6	11	50	4	①	●
OMPQ-4E-045	4.5	6	11	50	4	①	●
OMPQ-4E-050	5.0	6	13	50	4	①	●
OMPQ-4E-055	5.5	6	16	50	4	①	●
OMPQ-4E-060	6.0	6	16	50	4	②	●
OMPQ-4E-070	7.0	8	20	60	4	①	●
OMPQ-4E-080	8.0	8	20	60	4	②	●
OMPQ-4E-090	9.0	10	22	75	4	①	●
OMPQ-4E-100	10.0	10	25	75	4	②	●
OMPQ-4E-110	11.0	12	26	75	4	①	●
OMPQ-4E-120	12.0	12	30	75	4	②	●
OMPQ-4E-140	14.0	14	32	75	4	②	●
OMPQ-4E-160	16.0	16	45	100	4	②	●
OMPQ-4E-180	18.0	18	45	100	4	②	●
OMPQ-4E-200	20.0	20	45	100	4	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC ◎ Very Suitable ○ Suitable											

OMPQ-4EL

06

4-Flute Flattened End Mills
With Long Cutting EdgeCorner protection
flattened

OMPQ-4E long cutting edge series

Diameter Tolerance:

D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-030L	3.0	6	12	75	4	①	●
OMPQ-4E-040L	4.0	6	15	75	4	①	●
OMPQ-4E-050L	5.0	6	20	75	4	①	●
OMPQ-4E-060L	6.0	6	20	75	4	②	●
OMPQ-4E-080L	8.0	8	25	100	4	②	●
OMPQ-4E-100L	10.0	10	30	100	4	②	●
OMPQ-4E-120L	12.0	12	35	100	4	②	●
OMPQ-4E-140L	14.0	14	40	100	4	②	●
OMPQ-4E-160L	16.0	16	50	150	4	②	●
OMPQ-4E-200L	20.0	20	55	150	4	②	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL

Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

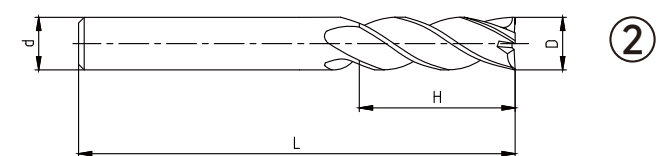
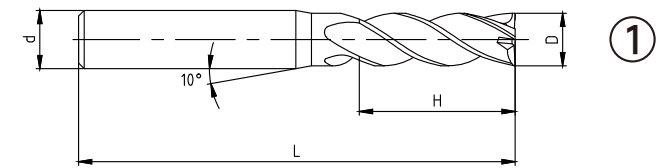
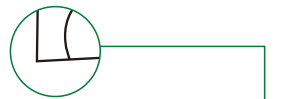
Hardness unit: HRC

◎ Very Suitable

○ Suitable

OMPQ-4EX

07

4-Flute Flattened End Mills
With Straight Shank And
Extra Long Cutting EdgeCorner protection
flattened

OMPQ-4E extra long cutting edge series, for deep side wall machining

Diameter Tolerance:

D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-030X	3.0	6	20	75	4	①	▲
OMPQ-4E-040X	4.0	6	25	75	4	①	▲
OMPQ-4E-050X	5.0	6	30	75	4	①	▲
OMPQ-4E-060X	6.0	6	30	75	4	②	▲
OMPQ-4E-080X	8.0	8	40	100	4	②	▲
OMPQ-4E-100X	10.0	10	50	110	4	②	▲
OMPQ-4E-120X	12.0	12	50	110	4	②	▲
OMPQ-4E-160X	16.0	16	70	150	4	②	▲
OMPQ-4E-200X	20.0	20	75	150	4	②	▲

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL

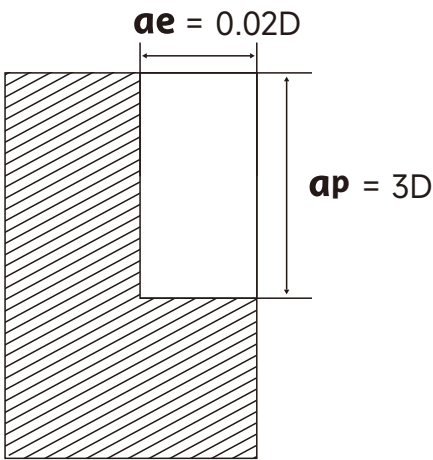
Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC

◎ Very Suitable

○ Suitable

OMPQ-4EX Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
1	20000	160	20000	160	20000	125	20000	125	20000	55	20000	95
2	15000	250	15000	250	15000	230	16000	230	11150	65	13000	140
3	14000	430	14000	430	13000	400	10600	400	7500	80	8500	260
4	10800	440	10800	440	10000	400	8000	400	5500	80	6500	265
5	8200	460	8200	460	7600	420	6400	420	4500	80	5000	280
6	5800	475	5800	475	5300	430	4250	340	2650	70	3600	290
8	4400	475	4400	475	4000	430	3180	340	2000	70	2700	290
10	3500	460	3500	460	3200	420	2550	330	1600	70	2150	280
12	2900	460	2900	460	2650	420	2120	330	1350	70	1800	280
16	2200	440	2200	430	2000	390	1590	315	1000	65	1350	260
20	1750	430	1750	430	1600	385	1270	310	800	60	1050	255
Max Cutting Depth												



- ③ The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- ③ Please select high-precision machine and tool holder.
- ③ Please use air blow or cutting liquid with high mist retardant property.
- ③ Down milling is recommended in the case of side milling.
- ③ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ③ Make overhang of tool as short as possible in conditions of non-interference.

OMPQ-4D

08

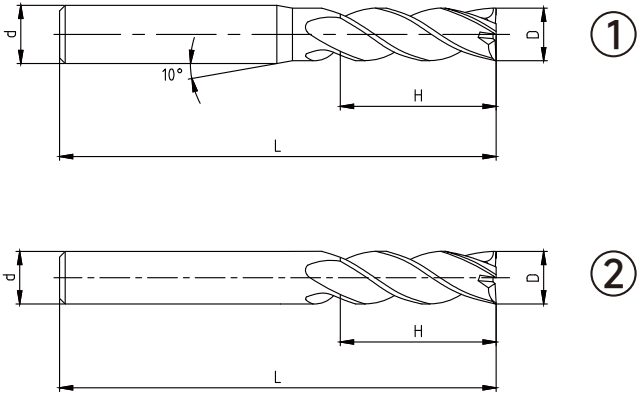
Sharp Flattened 4-Flute

Straight Shank Flat End Mills



- ③ Suitable for side milling and shallow slot machining

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



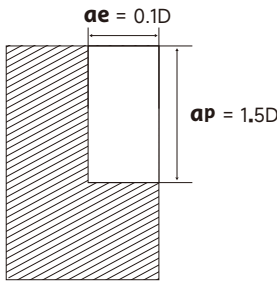
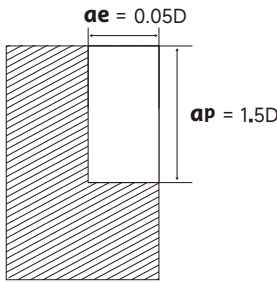
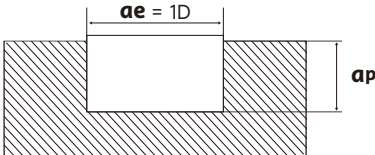
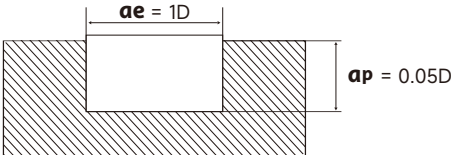
TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4D-010S	1.0	4	3	50	4	①	▲
OMPQ-4D-010	1.0	6	3	50	4	①	▲
OMPQ-4D-015S	1.5	4	4	50	4	①	▲
OMPQ-4D-015	1.5	6	4	50	4	①	▲
OMPQ-4D-020S	2.0	4	6	50	4	①	▲
OMPQ-4D-020	2.0	6	6	50	4	①	▲
OMPQ-4D-025S	2.5	4	8	50	4	①	▲
OMPQ-4D-025	2.5	6	8	50	4	①	▲
OMPQ-4D-030S	3.0	4	8	50	4	①	▲
OMPQ-4D-030	3.0	6	8	50	4	①	▲
OMPQ-4D-035	3.5	6	10	50	4	①	▲
OMPQ-4D-040S	4.0	4	11	50	4	②	●
OMPQ-4D-040	4.0	6	11	50	4	①	▲
OMPQ-4D-045	4.5	6	11	50	4	①	▲
OMPQ-4D-050	5.0	6	13	50	4	①	▲
OMPQ-4D-055	5.5	6	16	50	4	①	▲
OMPQ-4D-060	6.0	6	16	50	4	②	●
OMPQ-4D-070	7.0	8	20	60	4	①	▲
OMPQ-4D-080	8.0	8	20	60	4	②	●
OMPQ-4D-090	9.0	10	22	75	4	①	▲

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4D-100	10.0	10	25	75	4	②	●
OMPQ-4D-110	11.0	12	26	75	4	①	▲
OMPQ-4D-120	12.0	12	30	75	4	②	●
OMPQ-4D-140	14.0	14	32	75	4	②	▲
OMPQ-4D-160	16.0	16	45	100	4	②	●
OMPQ-4D-180	18.0	18	45	100	4	②	▲
OMPQ-4D-200	20.0	20	45	100	4	②	▲

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC ◎ Very Suitable ○ Suitable											



OMPQ-4D Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
1	20000	160	20000	160	20000	125	20000	125	20000	55	20000	95
2	15000	250	15000	250	15000	230	15000	230	11150	65	13000	140
3	14000	430	14000	430	13000	400	10600	400	7500	80	8500	260
4	10800	440	10800	440	10000	400	8000	400	5500	80	6500	265
5	8200	460	8200	460	7600	420	6400	420	4500	80	5000	280
6	7000	470	7000	470	6400	435	5300	435	3700	85	4200	285
8	5200	465	5200	465	4800	430	4000	430	2800	85	3200	290
10	4200	460	4200	460	3800	420	3200	420	2200	85	2500	275
12	3500	460	3500	460	3200	420	2650	420	1850	80	2100	275
14	3000	430	3000	430	2700	400	2300	400	1600	80	1800	260
16	2600	430	2600	430	2400	400	2000	400	1400	80	1600	260
18	2300	420	2300	420	2100	390	1800	390	1250	70	1400	255
20	2050	420	2050	420	1900	390	1600	390	1100	70	1250	255
Max Cutting Depth												
												
												
Tool diameter		Cutting depth (ap)										
Φ1≤D≤Φ3		0.15D										
Φ3≤D		0.3D										

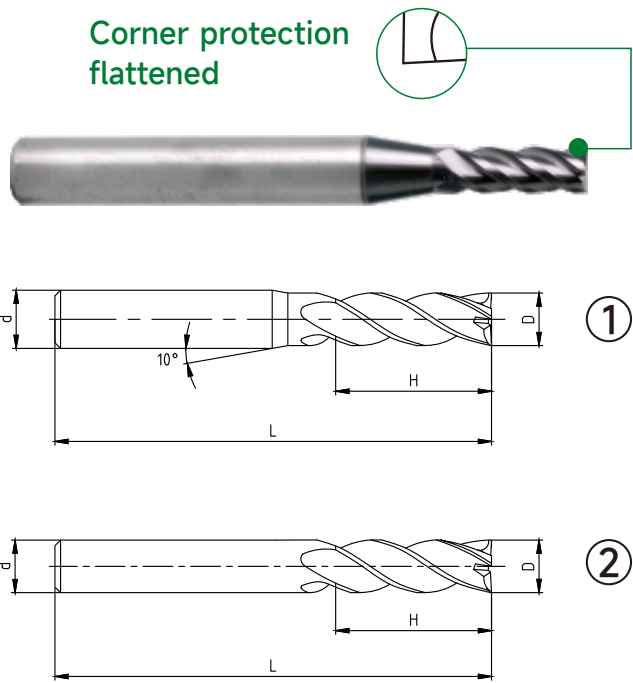
- ◎ The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- ◎ Please select high-precision machine and tool holder. ◎ Down milling is recommended in the case of side milling.
- ◎ Please use air blow or cutting liquid with high mist retardant property.
- ◎ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ◎ Make overhang of tool as short as possible in conditions of non-interference.

OMPQ-4EH09

4-Flute Long Shank Flat End Mills

OMPQ-4E long shank series for deep cavity milling

Diameter Tolerance:
D1~D6_{-0.02} / D6~D14_{-0.025} / D15~D20_{-0.03}



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-030SH	3.0	4	8	75	4	①	▲
OMPQ--4E-030H	3.0	6	8	75	4	①	▲
OMPQ-4E-040SH	4.0	4	11	75	4	②	▲
OMPQ-4E-040H	4.0	6	11	75	4	①	▲
OMPQ-4E-060H	6.0	6	16	75	4	②	▲
OMPQ-4E-080H	8.0	8	20	75	4	②	▲
OMPQ-4E-100H	10.0	10	25	100	4	②	▲
OMPQ-4E-120H	12.0	12	30	100	4	②	▲

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

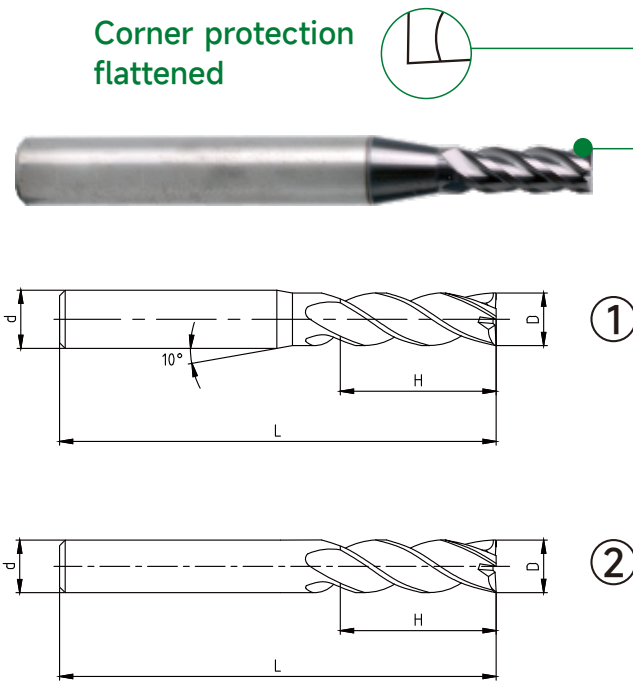
Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-4EG10

4-Flute Extra Long Shank Flat End Mills

OMPQ-4E extra long shank series for deep cavity milling.

Diameter Tolerance:
D1~D6_{-0.02} / D6~D14_{-0.025} / D15~D20_{-0.03}



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPQ-4E-060G	6.0	6	16	100	4	②	▲
OMPQ-4E-080G	8.0	8	20	100	4	②	▲
OMPQ-4E-040SH	4.0	4	11	75	4	②	▲
OMPQ-4E-100G	10.0	10	25	150	4	②	▲

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel·Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-4E/4EL/G/H Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405
Max Cutting Depth												
ae = 0.1D ap = 1.5D ae = 0.05D ap = 1.5D												
ae = 1D ap ae = 1D ap = 0.05D												
Tool diameter		Cutting depth (ap)										
Φ1≤D≤Φ3		0.15D										
Φ3≤D		0.3D										

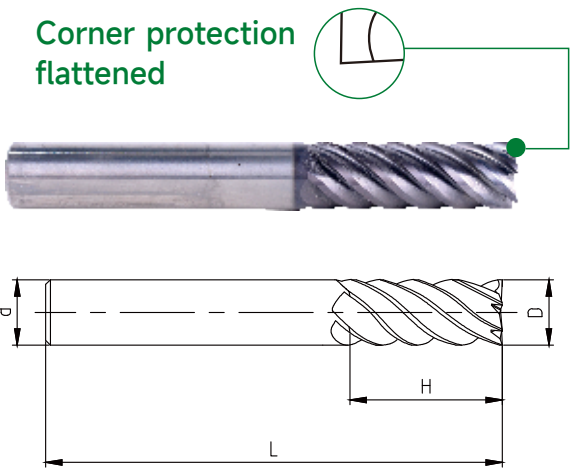
- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Down milling is recommended in the case of side milling.
- Please use air blow or cutting liquid with high mist retardant property.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

OMPQ-6E

11

6-Flute Straight Shank

Flat End Mills



- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	STOCK
	D	d	H	L		
OMPQ-6E-060	6.0	6	18	60	6	●
OMPQ-6E-080	8.0	8	20	60	6	●
OMPQ-6E-100	10.0	10	30	75	6	●
OMPQ-6E-120	12.0	12	32	75	6	●
OMPQ-6E-160	16.0	16	40	100	6	●
OMPQ-6E-200	20.0	20	45	100	6	●

● Stock Available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-6EL

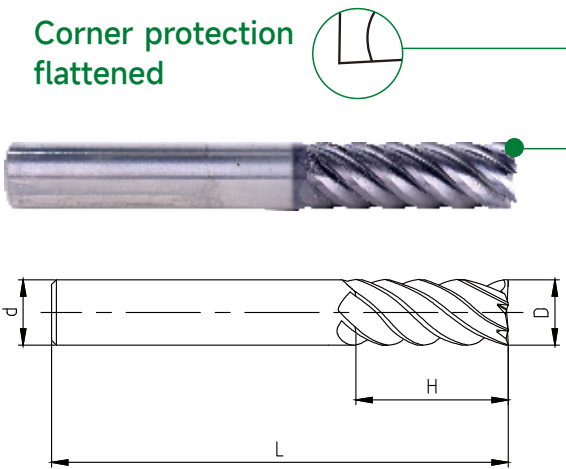
12

6-Flute Flattened End Mills

With Straight Shank And Long Cutting Edge

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02} / D6~D14_{-0.025} / D15~D20_{-0.03}



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	STOCK
	D	d	H	L		
OMPQ-6E-060L	6.0	6	24	75	6	●
OMPQ-6E-080L	8.0	8	32	75	6	●
OMPQ-6E-100L	10.0	10	40	100	6	●
OMPQ-6E-120L	12.0	12	45	100	6	●
OMPQ-6E-160L	16.0	16	64	150	6	●
OMPQ-6E-200L	20.0	20	75	150	6	●

● Stock Available ▲ Make-to-order

Workpiece material											
Carbon Steel	Alloy Steel	Pre-hardened steel・Hardened steel				Stainless Steel	Cast iron Nodular cast iron	Copper Alloy	Aluminum Alloy	Titanium Alloy	High Temperature Alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very Suitable ○ Suitable

OMPQ-6E/6EL Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405

- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in the case of side milling.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

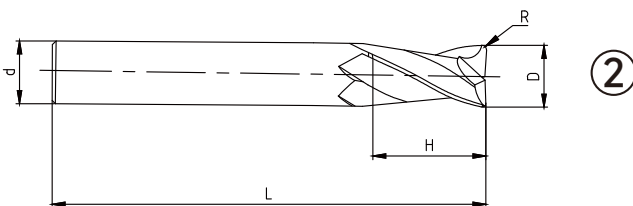
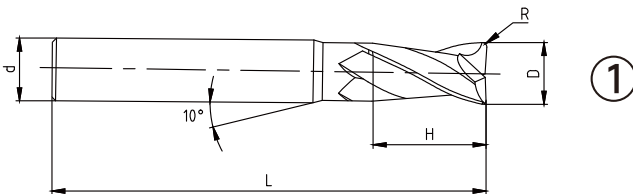


OMPQ-2R13

2-Flute Straight Shank
Corner Radius End Mills

Excellent vibration resistance,
able to achieve various processing
of slot milling, side milling,
drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2R-010R0.2S	1.0	0.2	4	3	50	2	①	●
OMPQ-2R-015R0.2S	1.5	0.2	4	4	50	2	①	●
OMPQ-2R-020R0.2S	2.0	0.2	4	6	50	2	①	●
OMPQ-2R-020R0.5S	2.0	0.5	4	6	50	2	①	●
OMPQ-2R-025R0.2S	2.5	0.2	4	8	50	2	①	●
OMPQ-2R-025R0.5S	2.5	0.5	4	8	50	2	①	●
OMPQ-2R-030R0.2S	3.0	0.2	4	8	50	2	①	●
OMPQ-2R-030R0.3S	3.0	0.3	4	8	50	2	①	●
OMPQ-2R-030R0.5S	3.0	0.5	4	8	50	2	①	●
OMPQ-2R-040R0.2S	4.0	0.2	4	11	50	2	②	●
OMPQ-2R-040R0.3S	4.0	0.3	4	11	50	2	②	●
OMPQ-2R-040R0.5S	4.0	0.5	4	11	50	2	②	●
OMPQ-2R-040R1.0S	4.0	1.0	4	11	50	2	②	●
OMPQ-2R-050R0.3	5.0	0.3	6	13	50	2	①	●
OMPQ-2R-050R0.5	5.0	0.5	6	13	50	2	①	●
OMPQ-2R-050R1.0	5.0	1.0	6	13	50	2	①	●
OMPQ-2R-060R0.3	6.0	0.3	6	16	50	2	②	●
OMPQ-2R-060R0.5	6.0	0.5	6	16	50	2	②	●
OMPQ-2R-060R1.0	6.0	1.0	6	16	50	2	②	●

TYPE	BASIC DIMENSION (mm)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2R-080R0.3	8.0	0.3	8	20	60	2	②	●
OMPQ-2R-080R0.5	8.0	0.5	8	20	60	2	②	●
OMPQ-2R-080R1.0	8.0	1.0	8	20	60	2	②	●
OMPQ-2R-100R0.5	10.0	0.5	10	25	75	2	②	●
OMPQ-2R-100R1.0	10.0	1.0	10	25	75	2	②	●
OMPQ-2R-100R1.5	10.0	1.5	10	25	75	2	②	●
OMPQ-2R-100R2.0	10.0	2.0	10	25	75	2	②	●
OMPQ-2R-120R0.5	12.0	0.5	12	30	75	2	②	●
OMPQ-2R-120R1.0	12.0	1.0	12	30	75	2	②	●
OMPQ-2R-120R1.5	12.0	1.5	12	30	75	2	②	●
OMPQ-2R-120R2.0	12.0	2.0	12	30	75	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very Suitable ○ Suitable

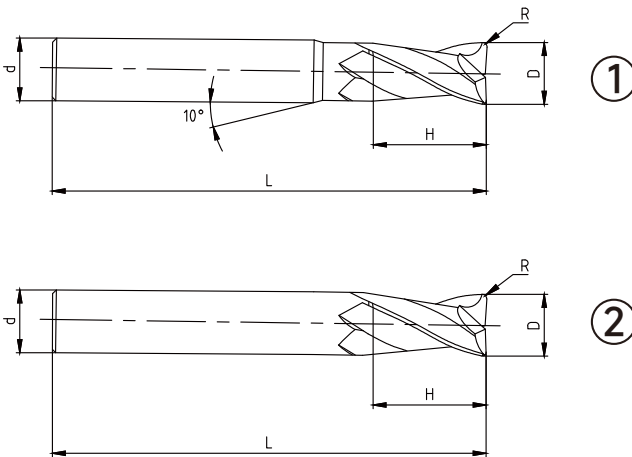
OMPQ-2RH

14

2-Flute Long Straight Shank
Corner Radius End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2R-060R0.5H	6.0	0.5	6	16	75	2	②	●
OMPQ-2R-060R1.0H	6.0	1.0	6	16	75	2	②	●
OMPQ-2R-100R0.5H	10.0	0.5	10	25	100	2	②	●
OMPQ-2R-100R1.0H	10.0	1.0	10	25	100	2	②	●
OMPQ-2R-100R2.0H	10.0	2.0	10	25	100	2	②	●
OMPQ-2R-120R0.5H	12.0	0.5	12	30	100	2	②	●
OMPQ-2R-120R1.0H	12.0	1.0	12	30	100	2	②	●
OMPQ-2R-120R2.0H	12.0	2.0	12	30	100	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL										
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy
		~40	~50	~55	~68					
◎	◎	◎	○			○	◎			

Hardness unit: HRC ◎ Very suitable ○ Suitable

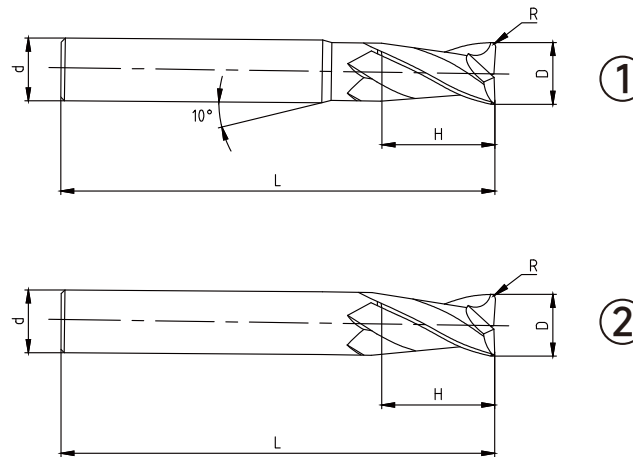
OMPQ-2RG

15

2-Flute Long Straight Shank
Corner Radius End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2R-080R0.5G	8.0	0.5	8	20	100	2	②	●
OMPQ-2R-080R1.0G	8.0	1.0	8	20	100	2	②	●
OMPQ-2R-100R0.5G	10.0	0.5	10	25	150	2	②	●
OMPQ-2R-100R1.0G	10.0	1.0	10	25	150	2	②	●
OMPQ-2R-100R2.0G	10.0	2.0	10	25	150	2	②	●
OMPQ-2R-120R0.5G	12.0	0.5	12	30	150	2	②	●
OMPQ-2R-120R1.0G	12.0	1.0	12	30	150	2	②	●
OMPQ-2R-120R2.0G	12.0	2.0	12	30	150	2	②	●

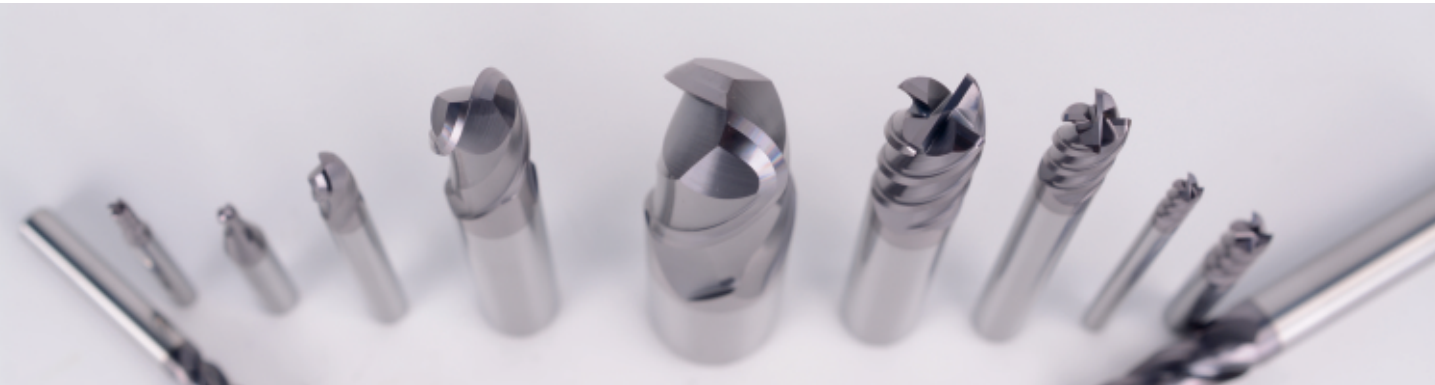
● Stock available ▲ Make-to-order

WORKPIECE MATERIAL										
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy
		~40	~50	~55	~68					
◎	◎	◎	○			○	◎			

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPQ-6E/6EL Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)
1	40000	800	40000	800	38000	700	32000	320	22300	200	25000	275
2	24000	900	24000	900	19000	760	16000	400	11150	230	13000	275
3	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
4	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
6	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
8	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
10	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
12	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420

- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in the case of side milling.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

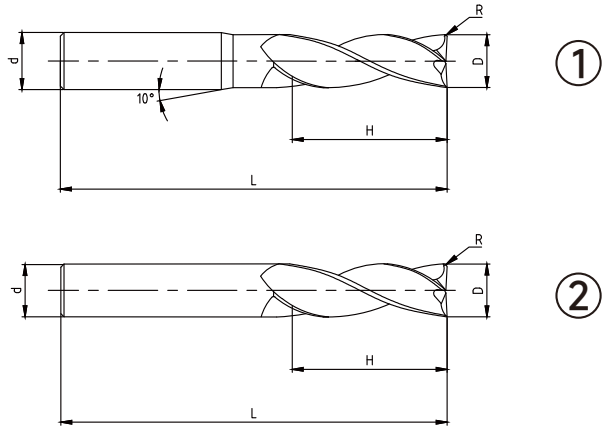
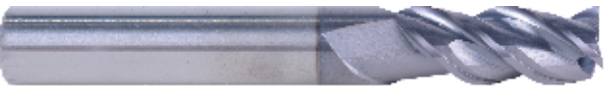


OMPQ-3R16

3-Flute Straight Shank
Corner Radius End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-3R-030R0.2S	3.0	0.2	4	8	50	3	①	●
OMPQ-3R-030R0.3S	3.0	0.3	4	8	50	3	①	●
OMPQ-3R-030R0.5S	3.0	0.5	4	8	50	3	①	●
OMPQ-3R-040R0.2S	4.0	0.2	4	10	50	3	②	●
OMPQ-3R-040R0.3S	4.0	0.3	4	10	50	3	②	●
OMPQ-3R-040R0.5S	4.0	0.5	4	10	50	3	②	●
OMPQ-3R-050R0.3	5.0	0.3	6	13	50	3	①	●
OMPQ-3R-050R0.5	5.0	0.5	6	13	50	3	①	●
OMPQ-3R-050R1.0	5.0	1.0	6	13	50	3	①	●
OMPQ-3R-060R0.3	6.0	0.3	6	16	50	3	②	●
OMPQ-3R-060R0.5	6.0	0.5	6	16	50	3	②	●
OMPQ-3R-060R1.0	6.0	1.0	6	16	50	3	②	●
OMPQ-3R-080R0.3	8.0	0.3	8	20	60	3	②	●
OMPQ-3R-080R0.5	8.0	0.5	8	20	60	3	②	●
OMPQ-3R-080R1.0	8.0	1.0	8	20	60	3	②	●
OMPQ-3R-100R0.5	10.0	0.5	10	25	75	3	②	●
OMPQ-3R-100R1.0	10.0	1.0	10	25	75	3	②	●
OMPQ-3R-100R2.0	10.0	2.0	10	25	75	3	②	●
OMPQ-3R-120R0.5	12.0	0.5	12	30	75	3	②	●
OMPQ-3R-120R1.0	12.0	1.0	12	30	75	3	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very suitable ○ Suitable

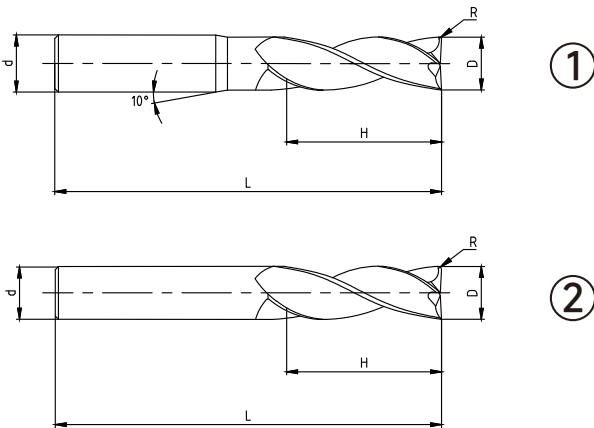
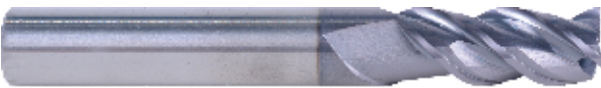
OMPQ-3RH

17

3-Flute Long Straight Shank
Corner Radius End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-3R-060R0.5H	6.0	0.5	6	16	75	3	②	●
OMPQ-3R-060R1.0H	6.0	1.0	6	16	75	3	②	●
OMPQ-3R-080R0.5H	8.0	0.5	8	20	75	3	②	●
OMPQ-3R-080R1.0H	8.0	1.0	8	20	75	3	②	●
OMPQ-3R-100R0.5H	10.0	0.5	10	25	100	3	②	●
OMPQ-3R-100R1.0H	10.0	1.0	10	25	100	3	②	●
OMPQ-3R-100R2.0H	10.0	2.0	10	25	100	3	②	●
OMPQ-3R-120R0.5H	12.0	0.5	12	30	100	3	②	●
OMPQ-3R-120R1.0H	12.0	1.0	12	30	100	3	②	●
OMPQ-3R-120R2.0H	12.0	2.0	12	30	100	3	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC		◎ Very suitable				○ Suitable					

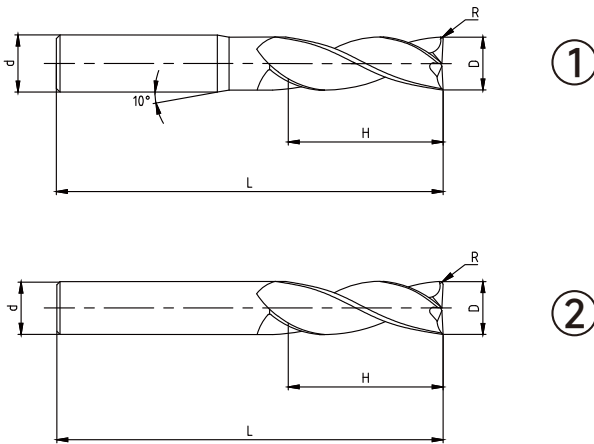
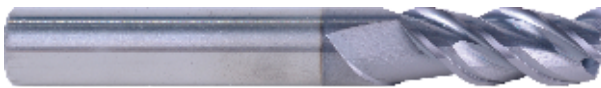
OMPQ-3RG

18

3-Flute Straight Extra
Long Shank Shank Corner
Radius End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-3R-080R0.5G	8.0	0.5	8	20	100	3	②	●
OMPQ-3R-080R1.0G	8.0	1.0	8	20	100	3	②	●
OMPQ-3R-100R0.5G	10.0	0.5	10	25	150	3	②	●
OMPQ-3R-100R1.0G	10.0	1.0	10	25	150	3	②	●
OMPQ-3R-100R2.0G	10.0	2.0	10	25	150	3	②	●
OMPQ-3R-120R0.5G	12.0	0.5	12	30	150	3	②	●
OMPQ-3R-120R1.0G	12.0	1.0	12	30	150	3	②	●
OMPQ-3R-120R2.0G	12.0	2.0	12	30	150	3	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				
Hardness unit: HRC ◎ Very suitable ○ Suitable											

OMPQ-3R/3RH/3RG Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)
3	15500	950	15500	950	12750	760	10600	450	7400	290	8500	280
4	11500	950	11500	950	9550	760	8000	550	5550	370	6500	370
5	9500	1050	9500	1050	7650	800	6400	550	4450	370	5000	375
6	8000	1050	8000	1050	6400	800	5300	580	3700	390	4200	390
8	6000	1300	6000	1300	4800	950	4000	700	2750	455	3200	440
10	4800	1200	4800	1200	3800	900	3200	650	2200	430	2500	440
12	4000	1100	4000	1100	3200	840	2650	610	1850	430	2100	420

- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in the case of side milling.
- When the machine rigidity and workpiece fixture stability is low,vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.



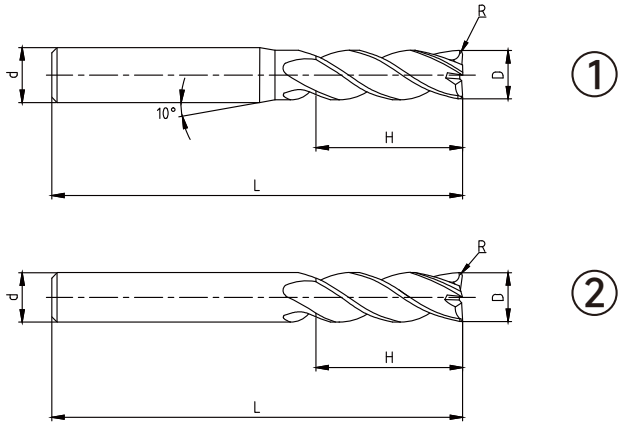
OMPQ-4R

19

4-Flute Straight Shank
Corner Radius End Mills

- Wide range of applications, able to achieve a variety of forms of processing

Diameter Tolerance:
D1~D6 -0.02^0 / D7~D20 -0.025^0
Radius R Tolerance ± 0.02



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4R-010R0.2S	1.0	0.2	4	3	50	4	①	▲
OMPQ-4R-015R0.2S	1.5	0.2	4	4	50	4	①	▲
OMPQ-4R-020R0.2S	2.0	0.2	4	6	50	4	①	▲
OMPQ-4R-020R0.5S	2.0	0.5	4	6	50	4	①	▲
OMPQ-4R-025R0.2S	2.5	0.2	4	8	50	4	①	▲
OMPQ-4R-025R0.5S	2.5	0.5	4	8	50	4	①	▲
OMPQ-4R-030R0.2S	3.0	0.2	4	8	50	4	①	●
OMPQ-4R-030R0.5S	3.0	0.5	4	8	50	4	①	●
OMPQ-4R-040R0.2S	4.0	0.2	4	10	50	4	②	●
OMPQ-4R-040R0.3S	4.0	0.3	4	10	50	4	②	●
OMPQ-4R-040R0.5	4.0	0.5	6	10	50	4	②	●
OMPQ-4R-040R0.5S	4.0	0.5	4	10	50	4	②	●
OMPQ-4R-050R0.2	5.0	0.2	6	13	50	4	②	●
OMPQ-4R-050R0.5	5.0	0.5	6	13	50	4	①	●
OMPQ-4R-050R1.0	5.0	1.0	6	13	50	4	①	●
OMPQ-4R-060R0.2	6.0	0.2	6	16	50	4	①	●
OMPQ-4R-060R0.3	6.0	0.3	6	16	50	4	②	●
OMPQ-4R-060R0.5	6.0	0.5	6	16	50	4	②	●
OMPQ-4R-060R1.0	6.0	1.0	6	16	50	4	②	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4R-080R0.3	8.0	0.3	8	20	60	4	②	●
OMPQ-4R-080R0.5	8.0	0.5	8	20	60	4	②	●
OMPQ-4R-080R1.0	8.0	1.0	8	20	60	4	②	●
OMPQ-4R-100R0.3	10.0	0.3	10	25	75	4	②	●
OMPQ-4R-100R0.5	10.0	0.5	10	25	75	4	②	●
OMPQ-4R-100R1.0	10.0	1.0	10	25	75	4	②	●
OMPQ-4R-100R2.0	10.0	2.0	10	25	75	4	②	●
OMPQ-4R-100R3.0	10.0	3.0	10	25	75	4	②	●
OMPQ-4R-120R0.3	12.0	0.3	12	30	75	4	②	●
OMPQ-4R-120R0.5	12.0	0.5	12	30	75	4	②	●
OMPQ-4R-120R1.0	12.0	1.0	12	30	75	4	②	●
OMPQ-4R-120R2.0	12.0	2.0	12	30	75	4	②	●
OMPQ-4R-120R3.0	12.0	3.0	12	30	75	4	②	●

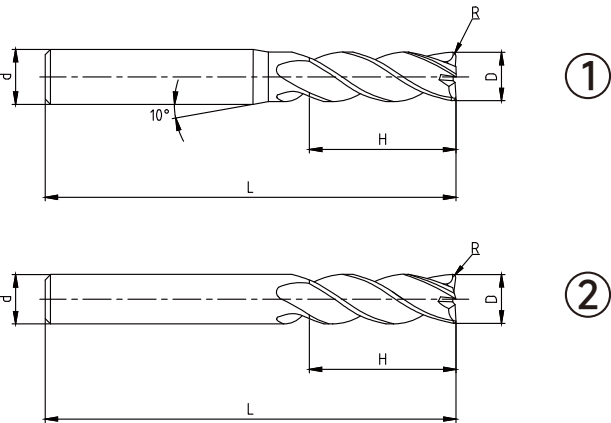
● Stock available ▲ Make-to-order

OMPQ-4RH20

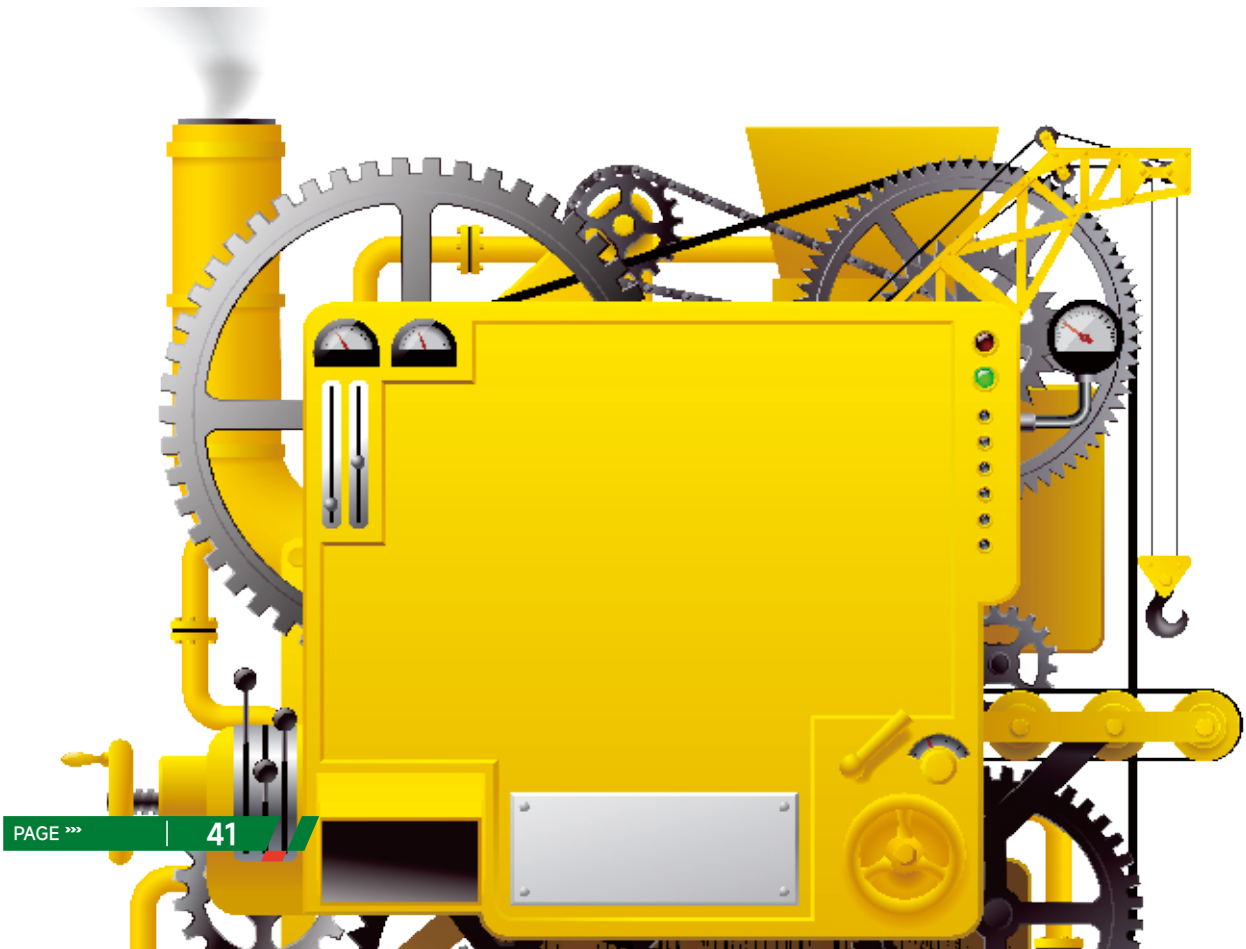
4-Flute Long Shank
Corner Radius End Mills

OMPQ-4R long shank/extra long shank series

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰
Radius R Tolerance±0.02



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4R-040R0.2SH	4.0	0.2	4	10	75	4	②	●
OMPQ-4R-040R0.2H	4.0	0.2	6	10	75	4	①	●
OMPQ-4R-040R0.5SH	4.0	0.5	4	10	75	4	②	●
OMPQ-4R-040R0.5H	4.0	0.5	6	10	75	4	①	●
OMPQ-4R-060R0.2H	6.0	0.2	6	16	75	4	②	●
OMPQ-4R-060R0.5H	6.0	0.5	6	16	75	4	②	●
OMPQ-4R-060R1.0H	6.0	1.0	6	16	75	4	②	●
OMPQ-4R-080R0.2H	8.0	0.2	8	20	75	4	②	●
OMPQ-4R-080R0.5H	8.0	0.5	8	20	75	4	②	●
OMPQ-4R-080R1.0H	8.0	1.0	8	20	75	4	②	●
OMPQ-4R-100R0.2H	10.0	0.2	10	25	100	4	②	●
OMPQ-4R-100R0.5H	10.0	0.5	10	25	100	4	②	●
OMPQ-4R-100R1.0H	10.0	1.0	10	25	100	4	②	●
OMPQ-4R-100R2.0H	10.0	2.0	10	25	100	4	②	●



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4R-120R0.2H	12.0	0.2	12	30	100	4	②	●
OMPQ-4R-120R0.5H	12.0	0.5	12	30	100	4	②	●
OMPQ-4R-120R1.0H	12.0	1.0	12	30	100	4	②	●
OMPQ-4R-120R2.0H	12.0	2.0	12	30	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very suitable ○ Suitable



OMPQ-4RG

21

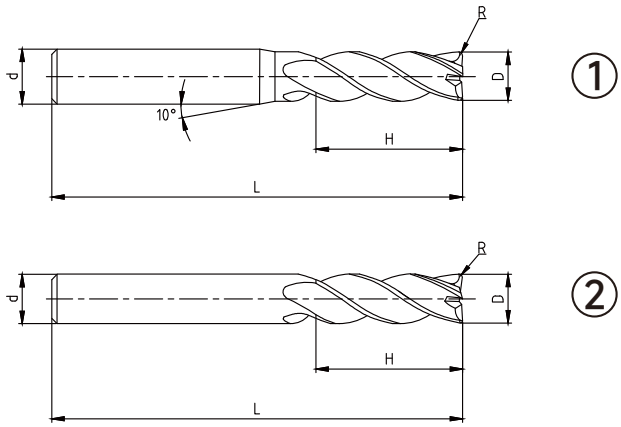
4-Flute Straight Extra

Long Shank Shank Corner

Radius End Mills

◎ OMPQ-4R long shank/extra long shank series

Diameter Tolerance:
D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$
Radius R Tolerance±0.02



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4R-060R0.2G	6.0	0.2	6	16	100	4	②	●
OMPQ-4R-060R0.5G	6.0	0.5	6	16	100	4	②	●
OMPQ-4R-060R1.0G	6.0	1.0	6	16	100	4	②	●
OMPQ-4R-080R0.2G	8.0	0.2	8	20	100	4	②	●
OMPQ-4R-080R0.5G	8.0	0.5	8	20	100	4	②	●
OMPQ-4R-080R1.0G	8.0	1.0	8	20	100	4	②	●
OMPQ-4R-100R0.2G	10.0	0.2	10	25	150	4	②	●
OMPQ-4R-100R0.5G	10.0	0.5	10	25	150	4	②	●
OMPQ-4R-100R1.0G	10.0	1.0	10	25	150	4	②	●
OMPQ-4R-100R2.0G	10.0	2.0	10	25	150	4	②	●
OMPQ-4R-120R0.2G	12.0	0.2	12	30	150	4	②	●
OMPQ-4R-120R0.5G	12.0	0.5	12	30	150	4	②	●
OMPQ-4R-120R1.0G	12.0	1.0	12	30	150	4	②	●
OMPQ-4R-120R2.0G	12.0	2.0	12	30	150	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPQ-4RH/4RG Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)
4	10800	840	10800	840	10000	770	8000	640	5500	145	6500	500
5	8200	880	8200	880	7600	810	6400	670	4500	145	5000	530
6	7000	900	7000	900	6400	830	5300	690	3700	160	4200	540
8	5200	890	5200	890	4800	815	4000	680	2800	160	3200	550
10	4200	880	4200	880	3800	810	3200	670	2200	160	2500	520
12	3500	880	3500	880	3200	810	2650	670	1850	160	2100	520

- ③ The above table shows the standard value of side milling.
When milling slot, 50%-70% of rotating speed and 40%-60% of feed speed stated above are recommended as standard.
- ③ Please select high-precision machine and tool holder.
- ③ Please use air blow or cutting liquid with high mist retardant property.
- ③ Down milling is recommended in the case of side milling.
- ③ When the machine rigidity and workpiece fixture stability is low,vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ③ Make overhang of tool as short as possible in conditions of non-interference.

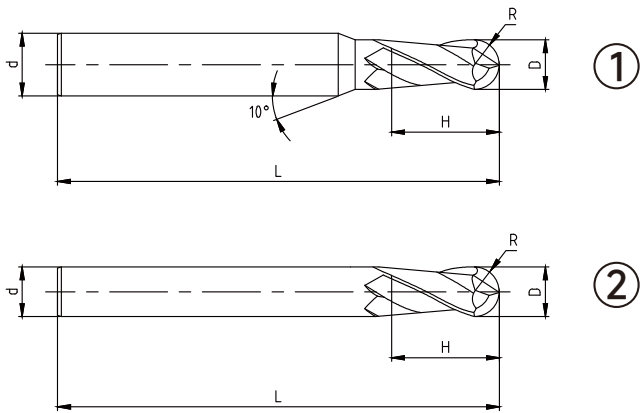


OMPQ-2B22

2-Flute Straight Shank
Ball Nose End Mills

③ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance: $D \begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$
Radius R Tolerance ± 0.05



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2B-010R0.5S	1	0.5	4	2	50	2	①	▲
OMPQ-2B-010R0.5	1	0.5	6	2	50	2	①	▲
OMPQ-2B-015R0.75S	1.5	0.75	4	3	50	2	①	▲
OMPQ-2B-015R0.75	1.5	0.75	6	3	50	2	①	▲
OMPQ-2B-020R1.0F	2	1	3	4	50	2	①	▲
OMPQ-2B-020R1.0S	2	1	4	4	50	2	①	▲
OMPQ-2B-020R1.0	2	1	6	4	50	2	①	▲
OMPQ-2B-025R1.25F	2.5	1.25	3	5	50	2	①	▲
OMPQ-2B-025R1.25S	2.5	1.25	4	5	50	2	①	▲
OMPQ-2B-025R1.25	2.5	1.25	6	5	50	2	①	▲
OMPQ-2B-030R1.5F	3	1.5	3	6	50	2	②	▲
OMPQ-2B-030R1.5S	3	1.5	4	6	50	2	①	●
OMPQ-2B-030R1.5	3	1.5	6	6	50	2	①	●
OMPQ-2B-035R1.75S	3.5	1.75	4	8	50	2	①	●
OMPQ-2B-035R1.75	3.5	1.75	6	8	50	2	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2B-040R2.0S	4	2	4	8	50	2	②	●
OMPQ-2B-040R2.0	4	2	6	8	50	2	①	●
OMPQ-2B-050R2.5	5	2.5	6	10	50	2	①	●
OMPQ-2B-055R2.75	5.5	2.75	6	12	50	2	①	●
OMPQ-2B-060R3.0	6	3	6	12	50	2	②	●
OMPQ-2B-070R3.5	7	3.5	8	14	60	2	①	●
OMPQ-2B-080R4.0	8	4	8	16	60	2	②	●
OMPQ-2B-090R4.5	9	4.5	10	18	75	2	①	●
OMPQ-2B-100R5.0	10	5	10	20	75	2	②	●
OMPQ-2B-120R6.0	12	6	12	24	75	2	②	●
OMPQ-2B-140R7.0	14	7	14	28	75	2	②	●
OMPQ-2B-160R8.0	16	8	16	32	100	2	②	●
OMPQ-2B-200R10.0	20	10	20	40	100	2	②	●

● Stock available ▲ Make-to-order



OMPQ-2BH/G

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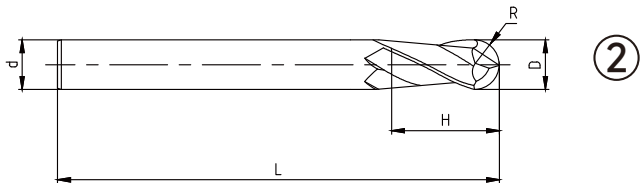
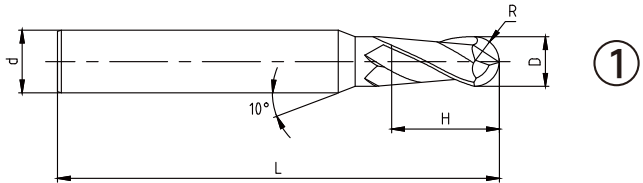
2-Flute Long Shank/Extra

Long Shank Ball Nose

End Mills

🕒 OMPQ-2B long shank/extra long shank series

Helix angle $\angle 30^\circ$ Diameter Tolerance -0.02
R ± 0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-2B-020R1.0SH	2	1	4	4	75	2	①	●
OMPQ-2B-020R1.0H	2	1	6	4	75	2	①	●
OMPQ-2B-025R1.25SH	2.5	1.25	4	5	75	2	①	●
OMPQ-2B-025R1.25H	2.5	1.25	6	5	75	2	①	●
OMPQ-2B-030R1.5SH	3	1.5	4	6	75	2	①	●
OMPQ-2B-030R1.5H	3	1.5	6	6	75	2	①	●
OMPQ-2B-035R1.75SH	3.5	1.75	4	8	75	2	①	●
OMPQ-2B-035R1.75H	3.5	1.75	6	8	75	2	①	●
OMPQ-2B-040R2.0SH	4	2	4	8	75	2	②	●
OMPQ-2B-040R2.0H	4	2	6	8	75	2	①	●
OMPQ-2B-050R2.5H	5	2.5	6	10	75	2	①	●
OMPQ-2B-055R2.75H	5.5	2.75	6	12	75	2	①	●

● Stock available ▲ Make-to-order

Hardness unit: HRC ◎ Very suitable ○ Suitable

- ② Please select high-precision machine and tool holder.
- ③ Please use air cooling or liquid cooling (Smoke-resistant cutting fluid).
- ④ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- ⑤ Make overhang of tool as short as possible in conditions of non-interference.

OMPQ-4B

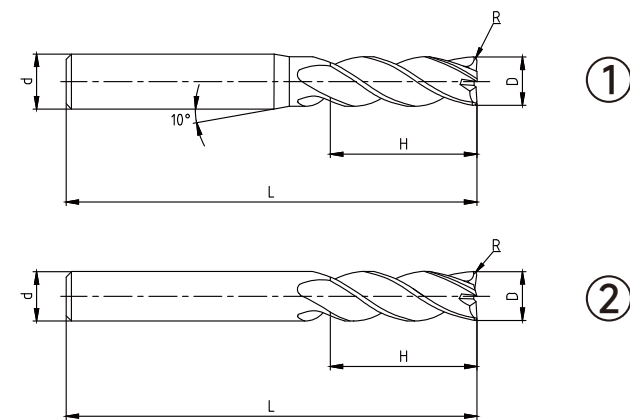
24

4-Flute Straight Shank Ball

Nose End Mills

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance D1~ D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4B-030R1.5	3.0	1.5	6	6	50	4	①	●
OMPQ-4B-040R2.0	4.0	2.0	6	8	50	4	①	●
OMPQ-4B-050R2.5	5.0	2.5	6	10	50	4	①	●
OMPQ-4B-060R3.0	6.0	3.0	6	12	50	4	②	●
OMPQ-4B-080R4.0	8.0	4.0	8	16	60	4	②	●
OMPQ-4B-100R5.0	10.0	5.0	10	20	75	4	②	●
OMPQ-4B-120R6.0	12.0	6.0	12	24	75	4	②	●
OMPQ-4B-140R7.0	14.0	7.0	14	28	75	4	②	●
OMPQ-4B-160R8.0	16.0	8.0	16	32	100	4	②	●
OMPQ-4B-180R9.0	18.0	9.0	18	36	100	4	②	●
OMPQ-4B-200R10.0	20.0	10.0	20	40	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPQ-4BL

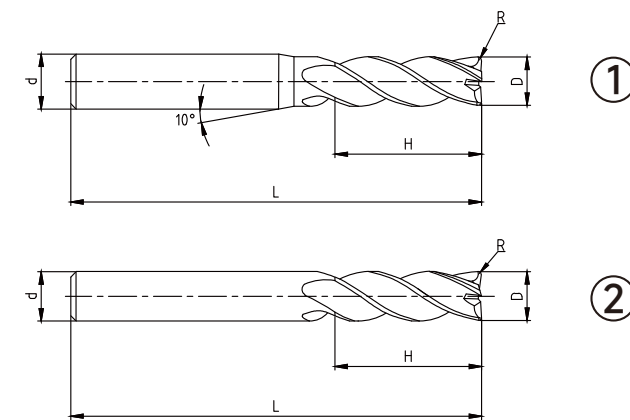
25

4-Flute Ball Nose End Mills

With Straight Shank And Long Cutting Edge

- Excellent vibration resistance, able to achieve various processing of slot milling, side milling, drilling and milling

Diameter Tolerance D1~ D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMPQ-4B-030R1.5L	3.0	1.5	6	6	75	4	①	●
OMPQ-4B-040R2.0L	4.0	2.0	6	8	75	4	①	●
OMPQ-4B-050R2.5L	5.0	2.5	6	10	75	4	①	●
OMPQ-4B-060R3.0L	6.0	3.0	6	12	75	4	②	●
OMPQ-4B-080R4.0L	8.0	4.0	8	16	100	4	②	●
OMPQ-4B-100R5.0L	10.0	5.0	10	20	100	4	②	●
OMPQ-4B-120R6.0L	12.0	6.0	12	24	100	4	②	●
OMPQ-4B-140R7.0L	14.0	7.0	14	28	100	4	②	●
OMPQ-4B-160R8.0L	16.0	8.0	16	32	150	4	②	●
OMPQ-4B-180R9.0L	18.0	9.0	18	36	150	4	②	●
OMPQ-4B-200R10.0L	20.0	10.0	20	40	150	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	○			○	◎				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPQ-4B/4BL Cutting Parameters												
Workpiece Material	Cast Iron Nodular Cast Iron		Carbon steel Alloy steel ~750N/mm²		Carbon steel Alloy steel ~30HRC		Pre-hardened steel Hardened steel ~40HRC		Stainless steel		Pre-hardened steel Hardened steel ~50HRC	
Diameter (mm)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)	Rotating Speed (min⁻¹)	Feed Speed (mm/min)
R1.5	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
R2.0	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
R2.5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
R3.0	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
R4.0	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
R5.0	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
R6.0	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
R8.0	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
R10.0	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405

- ⦿ Please select high-precision machine and tool holder.
- ⦿ Please use air cooling or liquid cooling (Smoke-resistant cutting fluid).
- ⦿ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- ⦿ Make overhang of tool as short as possible in conditions of non-interference.



OMPX

SERIES FOR
HIGH-PERFORMANCE
MACHINING



OKE 欧科亿

OMPX

Product series

Product series

OMPX

Series For High-performance Machining

ALTiN Coating

Cemented carbide substrate

More wear-resistant and high-temperature resistant nanocomposite coating

Ultra-fine grains

Excellent wear resistance and extremely high bending strength

Differential helical angle and pitch design offer high vibration resistance.

10°

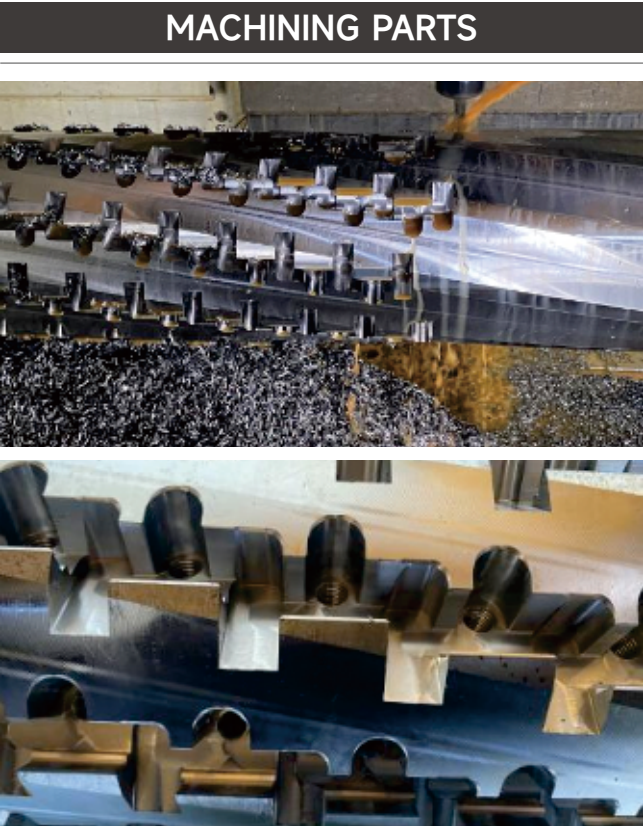
H

L

D

①

②



CUTTING CONDITIONS	
WORKPIECE	Woodworking Tools
TOOL TYPE	OMPX-4E-100 Foreign company A
WORKPIECE MATERIALS	40Cd (HRC20+)
CUTTING SPEED	2500
FEED SPEED	400
AP	5
AE	10
COOLING METHOD	External cooling Cutting fluid

CUTTING RESULTS	
Customer's processing time is reduced from 21 hours to 10.5 hours with a 100% efficiency increase.	

OMPX-4E

01

4-Flute Straight Shank Flat End Mills

- Suitable for side milling and shallow slot machining
- Wide application

Diameter Tolerance:
D1~D6-⁰/_{0.02} / D7~D20-⁰/_{0.025}

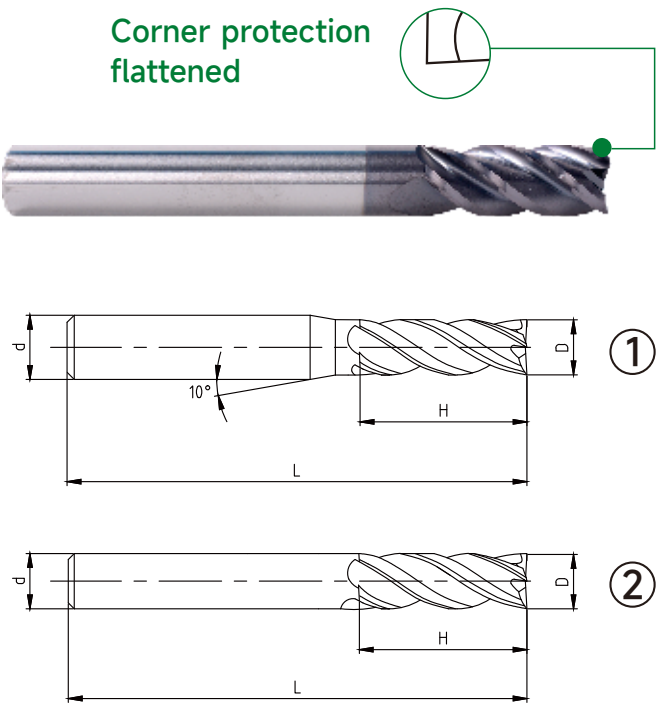
SHANK
h6

AlCrSiN

38°/41°
Helix

4

Square



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L			
OMPX-4E-010S	1.0	4	3	50	4	①	●
OMPX-4E-015S	1.5	4	4	50	4	①	●
OMPX-4E-020S	2.0	4	6	50	4	①	●
OMPX-4E-025S	2.5	4	8	50	4	①	●
OMPX-4E-030S	3.0	4	8	50	4	①	●
OMPX-4E-025	2.5	6	8	50	4	①	●
OMPX-4E-030	3.0	6	8	50	4	①	●
OMPX-4E-035S	3.5	4	10	50	4	①	●
OMPX-4E-040S	4.0	4	11	50	4	②	●
OMPX-4E-035	3.5	6	10	50	4	①	●
OMPX-4E-040	4.0	6	11	50	4	①	●
OMPX-4E-045	4.5	6	11	50	4	①	●
OMPX-4E-050	5.0	6	13	50	4	①	●
OMPX-4E-055	5.5	6	16	50	4	①	●
OMPX-4E-060	6.0	6	16	50	4	②	●
OMPX-4E-070	7.0	8	20	60	4	①	●
OMPX-4E-080	8.0	8	20	60	4	②	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPX-4E-090	9.0	10	22	75	4	①	●
OMPX-4E-100	10.0	10	25	75	4	②	●
OMPX-4E-110	11.0	12	26	75	4	①	●
OMPX-4E-120	12.0	12	30	75	4	②	●
OMPX-4E-140	14.0	14	32	75	4	②	●
OMPX-4E-160	16.0	16	45	100	4	②	●
OMPX-4E-180	18.0	18	45	100	4	②	●
OMPX-4E-200	20.0	20	45	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable



OMPX-4EL

02

4-Flute Flattened End Mills

With Straight Shank And Long Cutting Edge

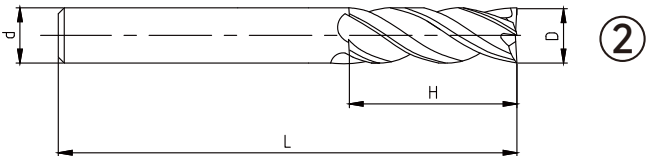
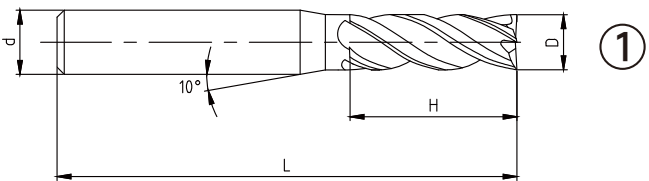
- ◎ Suitable for side milling and shallow slot machining
- ◎ Wide application
- ◎ OMPQ-4E long cutting edge series

Diameter Tolerance:

D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$



Corner protection flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMPX-4E-030L	3.0	6	12	75	4	①	●
OMPX-4E-040L	4.0	6	15	75	4	①	●
OMPX-4E-050L	5.0	6	20	75	4	①	●
OMPX-4E-060L	6.0	6	20	75	4	②	●
OMPX-4E-080L	8.0	8	25	100	4	②	●
OMPX-4E-100L	10.0	10	30	100	4	②	●
OMPX-4E-120L	12.0	12	35	100	4	②	●
OMPX-4E-140L	14.0	14	40	100	4	②	●
OMPX-4E-160L	16.0	16	50	150	4	②	●
OMPX-4E-200L	20.0	20	55	150	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPX-4EH

03

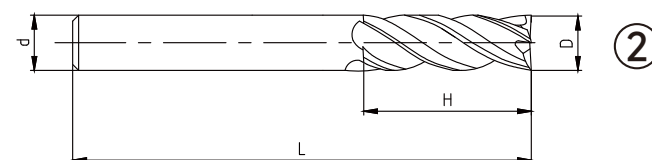
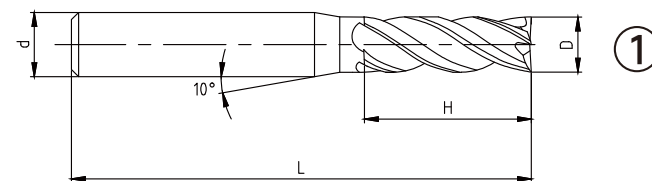
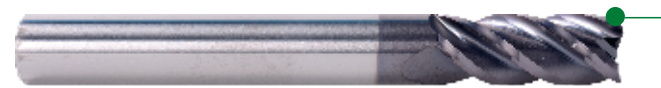
4-Flute Long Shank Flat End Mills

- Suitable for side milling and shallow slot machining
- Wide application
- OMPX-4E long shank/extra long shank series

Diameter Tolerance:

D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$ 

Corner protection flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L			
OMPX-4E-030SH	3.0	4	8	75	4	①	●
OMPX-4E-030H	3.0	6	8	75	4	①	●
OMPX-4E-040SH	4.0	4	11	75	4	②	●
OMPX-4E-040H	4.0	6	11	75	4	①	●
OMPX-4E-050H	5.0	6	13	75	4	①	●
OMPX-4E-060H	6.0	6	16	75	4	②	●
OMPX-4E-080H	8.0	8	20	75	4	②	●
OMPX-4E-100H	10.0	10	25	100	4	②	●
OMPX-4E-120H	12.0	12	30	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC

◎ Very suitable

○ Suitable

OMPX-4EG

04

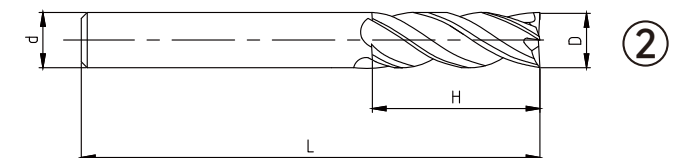
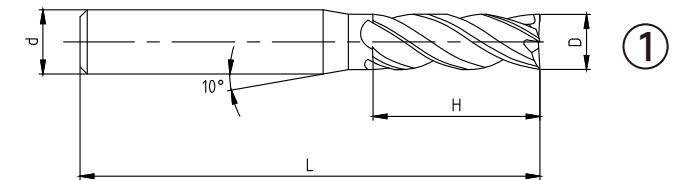
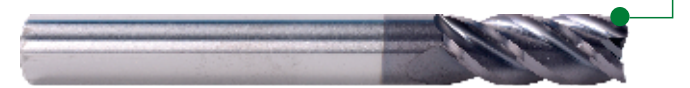
4-Flute Extra Long Shank Flat End Mills

- Suitable for side milling and shallow slot machining
- Wide application
- OMPX-4E long shank/extra long shank series

Diameter Tolerance:

D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$ 

Corner protection flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L			
OMPX-4E-060G	6.0	6	16	100	4	②	●
OMPX-4E-080G	8.0	8	20	100	4	②	●
OMPX-4E-100G	10.0	10	25	150	4	②	●
OMPX-4E-120G	12.0	12	30	150	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC

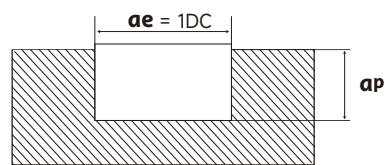
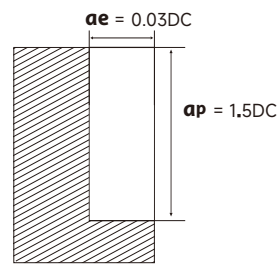
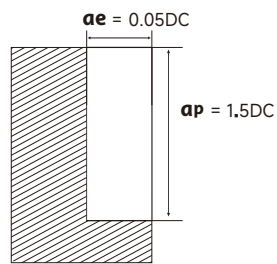
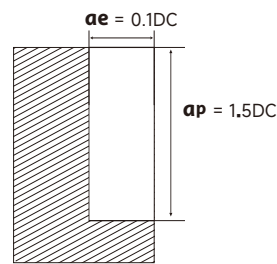
◎ Very suitable

○ Suitable

OMPX-4E/4EL/4EH/4EG Cutting Parameters (General cutting)

Workpiece Material	Cast iron Carbon steel Alloy steel ~30HRC		Stainless steel		Pre-hardened steel Hardened steel and tempered steel ~40HRC		Pre-hardened steel Hardened steel and tempered steel ~50HRC		Quenched steel ~55HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
1	20000	300	20000	108	20000	240	20000	180	20000	135
2	15000	480	11500	120	15000	420	13000	270	11140	195
3	14000	815	7500	145	10600	630	8500	495	7430	360
4	10800	840	5500	150	8000	645	6500	505	5570	370
5	8200	875	4500	150	6400	675	5000	530	4460	390
6	7000	900	3700	165	5300	690	4200	540	3710	390
8	5200	890	2800	165	4000	680	3200	555	2785	405
10	4200	875	2200	165	3200	675	2500	525	2230	375
12	3500	875	1850	165	2650	675	2100	525	1855	375
14	3000	815	1600	150	2300	630	1800	495	1590	360
16	2600	815	1400	145	2000	630	1600	495	1390	360
18	2300	805	1250	125	1800	620	1400	485	1240	350
20	2050	805	1100	125	1600	620	1250	485	1115	350

Max Cutting Depth



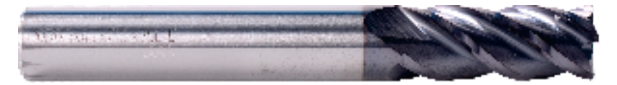
Tool diameter	Cutting depth (ap)
$\Phi 1 \leq DC \leq \Phi 3$	0.15DC
$\Phi 3 \leq DC \leq \Phi 6$	0.3DC
$\Phi 6 \leq DC \leq \Phi 20$	0.5DC

Tool diameter	Cutting depth (ap)
$\Phi 1 \leq DC \leq \Phi 3$	0.1DC
$\Phi 3 \leq DC$	0.2DC

- ③ The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- ③ Please select high-precision machine and tool holder. ③ Down milling is recommended in the case of side milling.
- ③ Please use air blow or cutting liquid with high mist retardant property.
- ③ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ③ Make overhang of tool as short as possible in conditions of non-interference.

OMPX-4R

05

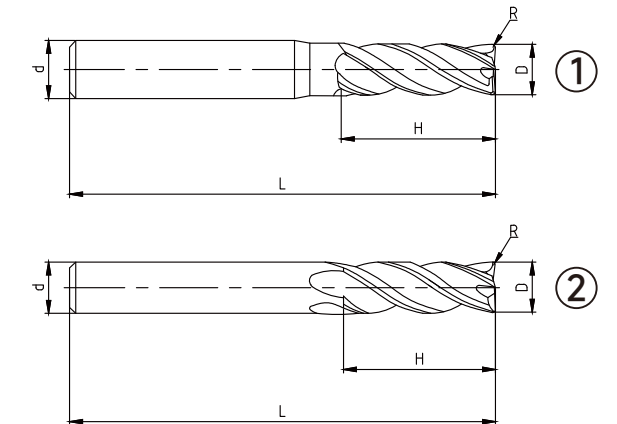
4-Flute Straight Shank
Corner Radius End Mills

- ③ Suitable for side milling and shallow slot machining
- ③ Wide application

Diameter Tolerance:

D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$

R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-4R-010R0.2S	1.0	0.2	3	50	4	4	①	▲
OMPX-4R-015R0.2S	1.5	0.2	4	50	4	4	①	▲
OMPX-4R-020R0.2S	2.0	0.2	6	50	4	4	①	▲
OMPX-4R-020R0.2	2.0	0.2	6	50	6	4	①	▲
OMPX-4R-020R0.5S	2.0	0.5	6	50	4	4	①	▲
OMPX-4R-020R0.5	2.0	0.5	6	50	6	4	①	▲
OMPX-4R-025R0.2S	2.5	0.2	8	50	4	4	①	▲
OMPX-4R-025R0.2	2.5	0.5	8	50	6	4	①	▲
OMPX-4R-025R0.5S	2.5	0.5	8	50	4	4	①	▲
OMPX-4R-025R0.5	2.5	0.5	8	50	6	4	①	▲
OMPX-4R-030R0.2S	3.0	0.2	8	50	4	4	①	●
OMPX-4R-030R0.2	3.0	0.2	8	50	6	4	①	●
OMPX-4R-030R0.5S	3.0	0.5	8	50	4	4	①	●
OMPX-4R-030R0.5	3.0	0.5	8	50	6	4	①	●
OMPX-4R-040R0.2S	4.0	0.2	11	50	4	4	②	●
OMPX-4R-040R0.2	4.0	0.2	11	50	6	4	①	●
OMPX-4R-040R0.3S	4.0	0.3	11	50	4	4	②	●
OMPX-4R-040R0.3	4.0	0.3	11	50	6	4	①	●
OMPX-4R-040R0.5S	4.0	0.5	11	50	4	4	②	●

● Stock available

▲ Make-to-order

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-4R-040R0.5	4.0	0.5	11	50	6	4	①	●
OMPX-4R-050R0.2	5.0	0.2	13	50	6	4	①	●
OMPX-4R-050R0.3	5.0	0.3	13	50	6	4	①	●
OMPX-4R-050R0.5	5.0	0.5	13	50	6	4	①	●
OMPX-4R-050R1.0	5.0	1.0	13	50	6	4	①	●
OMPX-4R-060R0.2	6.0	0.2	16	50	6	4	②	●
OMPX-4R-060R0.3	6.0	0.3	16	50	6	4	②	●
OMPX-4R-060R0.5	6.0	0.5	16	50	6	4	②	●
OMPX-4R-060R1.0	6.0	1.0	16	50	6	4	②	●
OMPX-4R-080R0.2	8.0	0.2	20	60	8	4	②	●
OMPX-4R-080R0.3	8.0	0.3	20	60	8	4	②	●
OMPX-4R-080R0.5	8.0	0.5	20	60	8	4	②	●
OMPX-4R-080R1.0	8.0	1.0	20	60	8	4	②	●
OMPX-4R-100R0.2	10.0	0.2	25	75	10	4	②	●
OMPX-4R-100R0.3	10.0	0.3	25	75	10	4	②	●
OMPX-4R-100R0.5	10.0	0.5	25	75	10	4	②	●
OMPX-4R-100R1.0	10.0	1.0	25	75	10	4	②	●
OMPX-4R-100R2.0	10.0	2.0	25	75	10	4	②	●
OMPX-4R-100R3.0	10.0	3.0	25	75	10	4	②	●
OMPX-4R-120R0.2	12.0	0.2	30	75	12	4	②	●
OMPX-4R-120R0.3	12.0	0.3	30	75	12	4	②	●
OMPX-4R-120R0.5	12.0	0.5	30	75	12	4	②	●
OMPX-4R-120R1.0	12.0	1.0	30	75	12	4	②	●
OMPX-4R-120R2.0	12.0	2.0	30	75	12	4	②	●
OMPX-4R-120R3.0	12.0	3.0	30	75	12	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPX-4RH

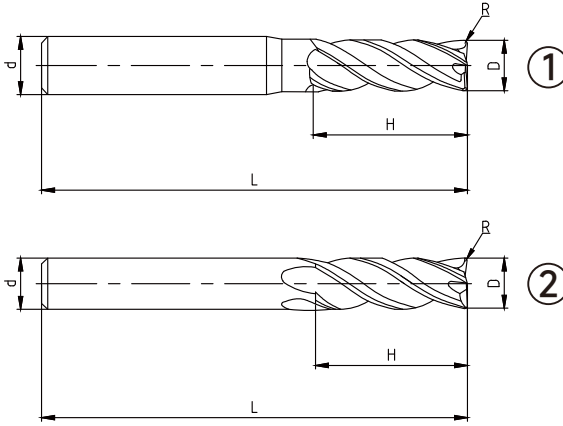
06

4-Flute Long Shank

Corner Radius End Mills

- ◎ Suitable for side milling and shallow slot machining
- ◎ Wide application
- ◎ OMPX-4R long shank series

Diameter Tolerance:
D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$ R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-4R-040R0.2SH	4.0	0.2	10	75	4	4	②	▲
OMPX-4R-040R0.2H	4.0	0.2	10	75	6	4	①	▲
OMPX-4R-040R0.5SH	4.0	0.5	10	75	4	4	②	▲
OMPX-4R-040R0.5H	4.0	0.5	10	75	6	4	①	▲
OMPX-4R-060R0.2H	6.0	0.2	16	75	6	4	②	▲
OMPX-4R-060R0.5H	6.0	0.5	16	75	6	4	②	▲
OMPX-4R-060R1.0H	6.0	1.0	16	75	6	4	②	▲
OMPX-4R-080R0.2H	8.0	0.2	20	75	8	4	②	▲
OMPX-4R-080R0.5H	8.0	0.5	20	75	8	4	②	▲
OMPX-4R-080R1.0H	8.0	1.0	20	75	8	4	②	▲
OMPX-4R-100R0.2H	10.0	0.2	25	100	10	4	②	▲
OMPX-4R-100R0.5H	10.0	0.5	25	100	10	4	②	▲
OMPX-4R-100R1.0H	10.0	1.0	25	100	10	4	②	▲
OMPX-4R-100R2.0H	10.0	2.0	25	100	10	4	②	▲
OMPX-4R-120R0.2H	12.0	0.2	30	100	12	4	②	▲
OMPX-4R-120R0.5H	12.0	0.5	30	100	12	4	②	▲
OMPX-4R-120R1.0H	12.0	1.0	30	100	12	4	②	▲
OMPX-4R-120R2.0H	12.0	2.0	30	100	12	4	②	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPX-4RG

07

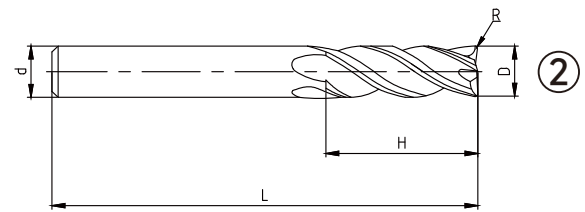
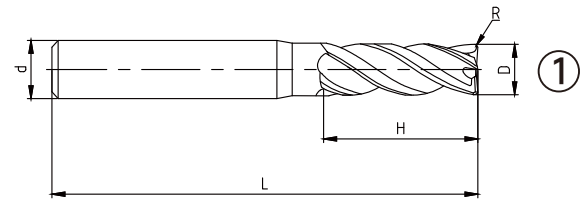
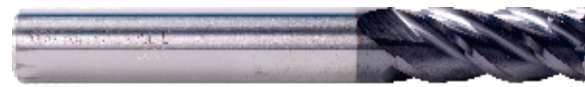
4-Flute Extra Long
Corner Radius End Mills

- ◎ Suitable for side milling and shallow slot machining
- ◎ Wide application
- ◎ OMPX-4R extra long shank series

Diameter Tolerance:

D1~D6 $_{-0.02}^0$ / D7~D20 $_{-0.025}^0$

R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-4R-060R0.2G	6.0	0.2	16	100	6	4	②	▲
OMPX-4R-060R0.5G	6.0	0.5	16	100	6	4	②	▲
OMPX-4R-060R1.0G	6.0	1.0	16	100	6	4	②	▲
OMPX-4R-080R0.2G	8.0	0.2	20	100	8	4	②	▲
OMPX-4R-080R0.5G	8.0	0.5	20	100	8	4	②	▲
OMPX-4R-080R1.0G	8.0	1.0	20	100	8	4	②	▲
OMPX-4R-100R0.2G	10.0	0.2	25	150	10	4	②	▲
OMPX-4R-100R0.5G	10.0	0.5	25	150	10	4	②	▲
OMPX-4R-100R1.0G	10.0	1.0	25	150	10	4	②	▲
OMPX-4R-100R2.0G	10.0	2.0	25	150	10	4	②	▲
OMPX-4R-120R0.2G	12.0	0.2	30	150	12	4	②	▲
OMPX-4R-120R0.5G	12.0	0.5	30	150	12	4	②	▲
OMPX-4R-120R1.0G	12.0	1.0	30	150	12	4	②	▲
OMPX-4R-120R2.0G	12.0	2.0	30	150	12	4	②	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL

Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	◎			○	○

Hardness unit: HRC

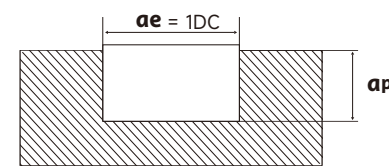
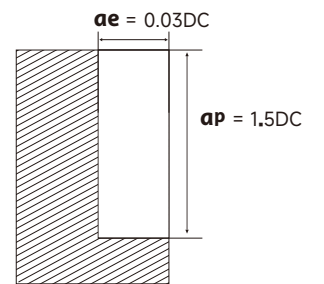
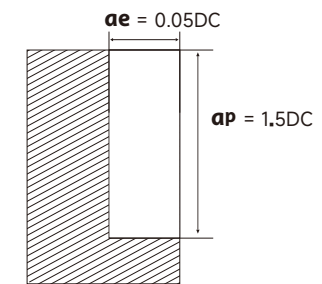
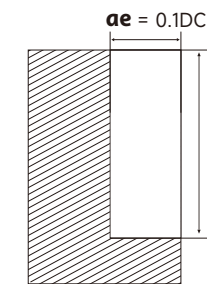
◎ Very suitable

○ Suitable

OMPX-4R/4RH/4RG Cutting Parameters (General cutting)

Workpiece Material	Cast iron Carbon steel Alloy steel ~30HRC		Stainless steel		Pre-hardened steel Hardened steel and tempered steel ~40HRC		Pre-hardened steel Hardened steel and tempered steel ~50HRC		Quenched steel ~55HRC	
	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
Diameter (mm)										
3	14000	985	7500	175	10600	755	8500	590	7430	435
4	10800	1010	5500	175	8000	770	6500	600	5570	445
5	8200	1055	4500	175	6400	805	5000	640	4460	470
6	7000	1080	3700	195	5300	830	4200	650	3710	470
8	5200	1070	2800	195	4000	815	3200	660	2785	485
10	4200	1055	2200	195	3200	805	2500	625	2230	450
12	3500	1055	1850	195	2650	805	2100	625	1855	450
16	2600	985	1400	175	2000	755	1600	590	1390	435

Max Cutting Depth



Tool diameter	Cutting depth (ap)
Φ1≤DC≤Φ3	0.15DC
Φ3≤DC≤Φ6	0.3DC
Φ6≤DC≤Φ20	0.5DC

Tool diameter	Cutting depth (ap)
Φ1≤DC≤Φ3	0.1DC
Φ3≤DC	0.2DC

- ◎ The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- ◎ Please select high-precision machine and tool holder. ◎ Down milling is recommended in the case of side milling.
- ◎ Please use air blow or cutting liquid with high mist retardant property.
- ◎ When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- ◎ Make overhang of tool as short as possible in conditions of non-interference.

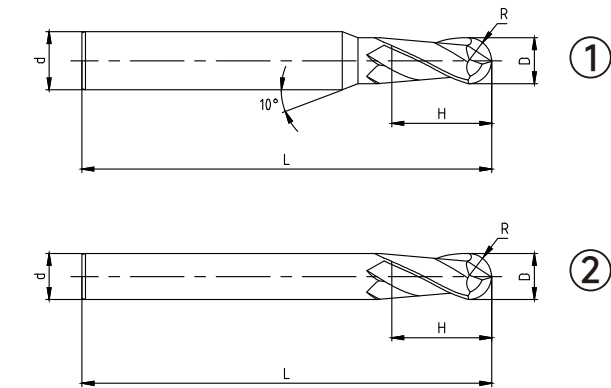
OMPX-2B

08

2-Flute Straight Shank Ball Nose End Mills

Best suited for profiling milling and curved surface processing

Diameter Tolerance D1~ D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-2B-010R0.5S	1.0	0.5	2	50	4	2	①	▲
OMPX-2B-010R0.5	1.0	0.5	2	50	6	2	①	▲
OMPX-2B-015R0.75S	1.5	0.75	3	50	4	2	①	▲
OMPX-2B-015R0.75	1.5	0.75	3	50	6	2	①	▲
OMPX-2B-020R1.0F	2.0	1.0	4	50	3	2	①	●
OMPX-2B-020R1.0S	2.0	1.0	4	50	4	2	①	●
OMPX-2B-020R1.0	2.0	1.0	4	50	6	2	①	●
OMPX-2B-025R1.25F	2.5	1.25	5	50	3	2	①	●
OMPX-2B-025R1.25S	2.5	1.25	5	50	4	2	①	●
OMPX-2B-025R1.25	2.5	1.25	5	50	6	2	①	●
OMPX-2B-030R1.5F	3.0	1.5	6	50	3	2	②	●
OMPX-2B-030R1.5S	3.0	1.5	6	50	4	2	①	●
OMPX-2B-030R1.5	3.0	1.5	6	50	6	2	①	●
OMPX-2B-035R1.75S	3.5	1.75	8	50	4	2	①	●
OMPX-2B-035R1.75	3.5	1.75	8	50	2	2	①	●
OMPX-2B-040R2.0S	4.0	2.0	8	50	4	2	②	●
OMPX-2B-040R2.0	4.0	2.0	8	50	6	2	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-2B-050R2.5	5.0	2.5	10	50	6	2	①	●
OMPX-2B-055R2.75	5.5	2.75	12	50	6	2	①	●
OMPX-2B-060R3.0	6.0	3.0	12	50	6	2	②	●
OMPX-2B-070R3.5	7.0	3.5	14	60	8	2	①	●
OMPX-2B-080R4.0	8.0	4.0	16	60	8	2	②	●
OMPX-2B-090R4.5	9.0	4.5	18	75	10	2	①	●
OMPX-2B-100R5.0	10.0	5.0	20	75	10	2	②	●
OMPX-2B-120R6.0	12.0	6.0	24	75	10	2	②	●
OMPX-2B-140R7.0	14.0	7.0	28	75	14	2	②	●
OMPX-2B-160R8.0	16.0	8.0	32	100	16	2	②	●
OMPX-2B-200R10.0	20.0	10.0	40	100	20	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			○	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

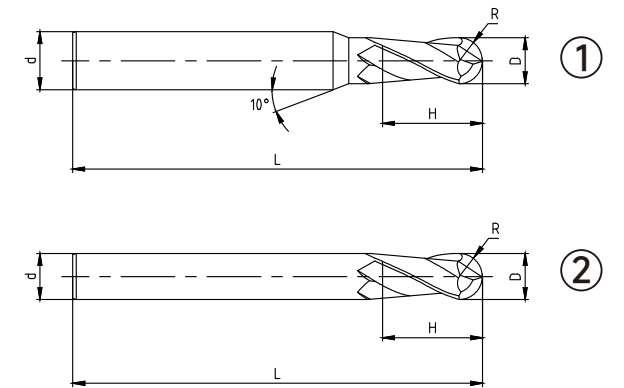
OMPX-2BH

09

2-Flute Long Shank Ball Nose End Mills

- OMPX-2B Long shank series
- Best suited for profiling milling and curved surface processing

Diameter Tolerance D1~ D20_0.02 R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-2B-020R1.0SH	2.0	1.0	4	75	4	2	①	▲
OMPX-2B-020R1.0H	2.0	1.0	4	75	6	2	①	▲
OMPX-2B-025R1.25SH	2.5	1.25	5	75	4	2	①	▲
OMPX-2B-025R1.25H	2.5	1.25	5	75	6	2	①	▲
OMPX-2B-030R1.5SH	3.0	1.5	6	75	4	2	①	▲
OMPX-2B-030R1.5H	3.0	1.5	6	75	6	2	①	▲
OMPX-2B-035R1.75SH	3.5	1.75	8	75	4	2	①	▲
OMPX-2B-035R1.75H	3.5	1.75	8	75	6	2	①	▲
OMPX-2B-040R2.0SH	4.0	2.0	8	75	4	2	②	▲
OMPX-2B-040R2.0H	4.0	2.0	8	75	6	2	①	▲
OMPX-2B-050R2.5H	5.0	2.5	10	75	6	2	①	▲

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-2B-055R2.75H	5.5	2.75	12	75	6	2	①	▲
OMPX-2B-060R3.0H	6.0	3.0	12	75	6	2	②	▲
OMPX-2B-070R3.5H	7.0	3.5	14	75	8	2	①	▲
OMPX-2B-080R4.0H	8.0	4.0	16	75	8	2	②	▲
OMPX-2B-090R4.5H	9.0	4.5	18	100	10	2	①	▲
OMPX-2B-100R5.0H	10.0	5.0	20	100	10	2	②	▲
OMPX-2B-120R6.0H	12.0	6.0	24	100	12	2	②	▲
OMPX-2B-140R7.0H	14.0	7.0	28	100	14	2	②	▲
OMPX-2B-160R8.0H	16.0	8.0	32	150	16	2	②	▲
OMPX-2B-200R10.0H	20.0	10.0	32	150	20	2	②	▲

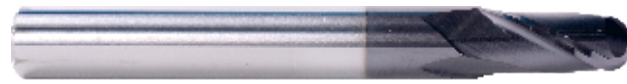
● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎	◎		○	◎			○	○

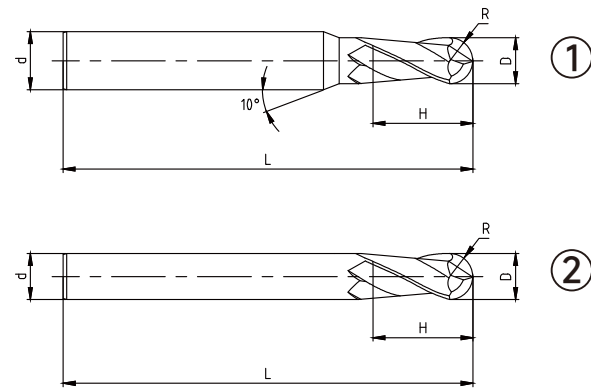
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPX-2BG

10

2-Flute Extra Long Shank
Ball Nose End Mills

- OMPX-2B Long shank /extra long series
- Best suited for profiling milling and curved surface processing

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	H	L	d			
OMPX-2B-060R3.0G	6.0	3.0	12	100	6	2	②	▲
OMPX-2B-080R4.0G	8.0	4.0	16	100	8	2	②	▲
OMPX-2B-100R5.0G	10.0	5.0	20	150	10	2	②	▲
OMPX-2B-120R6.0G	12.0	6.0	24	150	12	2	②	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎	◎		○	◎			○	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMPX-2B/2BG/2BH Cutting Parameters (General cutting)

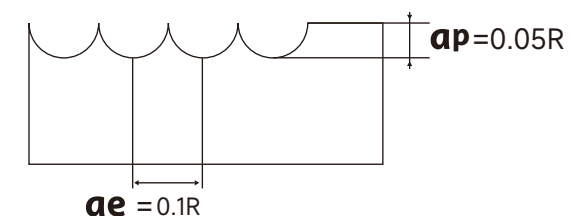
Workpiece Material	Cast iron Carbon steel Alloy steel ~30HRC		Stainless steel		Pre-hardened steel Hardened steel and tempered steel ~40HRC		Pre-hardened steel Hardened steel and tempered steel ~50HRC		Quenched steel ~55HRC	
	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
Diameter (mm)										
R0.5	40000	960	22300	240	32000	385	25000	330	22280	295
R1.0	24000	1080	11150	275	16000	480	13000	330	11140	295
R1.5	15500	1150	7400	350	10600	545	8500	335	7430	295
R2.0	11500	1150	5550	445	8000	665	6500	450	5570	385
R2.5	9500	1270	4450	445	6400	665	5000	455	4455	405
R3.0	8000	1270	3700	470	5300	700	4200	470	3715	420
R4.0	6000	1575	2750	550	4000	850	3200	535	2785	465
R5.0	4800	1455	2200	520	3200	785	2500	535	2230	465
R6.0	4000	1330	1850	520	2650	740	2100	505	1855	450
R8.0	3000	1270	1350	455	2000	725	1600	455	1395	395
R10.0	2400	1150	1100	445	1600	675	1250	400	1115	360

- Please select high-precision machine and tool holder
- Please use air cooling or liquid cooling (Smoke-resistant cutting fluid)
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

OMPX-2B/2BH Cutting Parameters (high speed cutting)

Workpiece Material	Cast iron Carbon steel Alloy steel ~30HRC		Stainless steel		Pre-hardened steel Hardened steel and tempered steel ~40HRC		Pre-hardened steel Hardened steel and tempered steel ~50HRC		Quenched steel ~55HRC	
	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
Diameter (mm)										
R3.0	15000	4800	11500	2750	9500	2250	7960	1885	6370	1510
R4.0	11500	3650	8950	2100	7150	1700	5970	1420	4775	1135
R5.0	9500	3000	7150	1700	5700	1350	4775	1130	3820	905
R6.0	7950	2500	5950	1400	4750	1100	3980	920	3180	735
R8.0	5950	1900	4450	1050	3550	850	2985	760	2390	610
R10.0	4750	1500	3550	850	2850	680	2390	570	1910	455

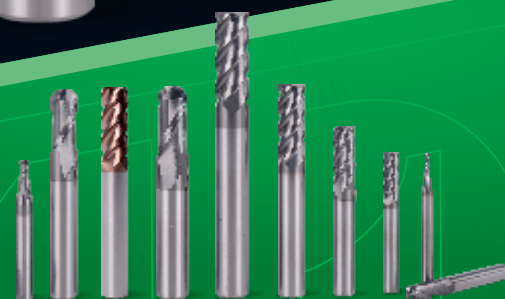
Max Cutting Depth



- Please select high-precision machine and tool holder
- Please use air cooling or liquid cooling (Smoke-resistant cutting fluid)
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

OMH

SERIES FOR QUENCHED STEEL MACHINING



OMH

Product series

OKE 欧科亿



Product series

OMH



Series For Quenched Steel Machining

Product features and application range

- ① The series are suitable for semi finishing and finishing of steel<HRC55 And quenched steel
- ② High rigidity tool structure design, effectively reduces the vibration in the process of tool machining
- ③ High strength, high toughness substrate with new high hard special coating, effectively prolongs the tool life, also gives better workpiece surface quality.



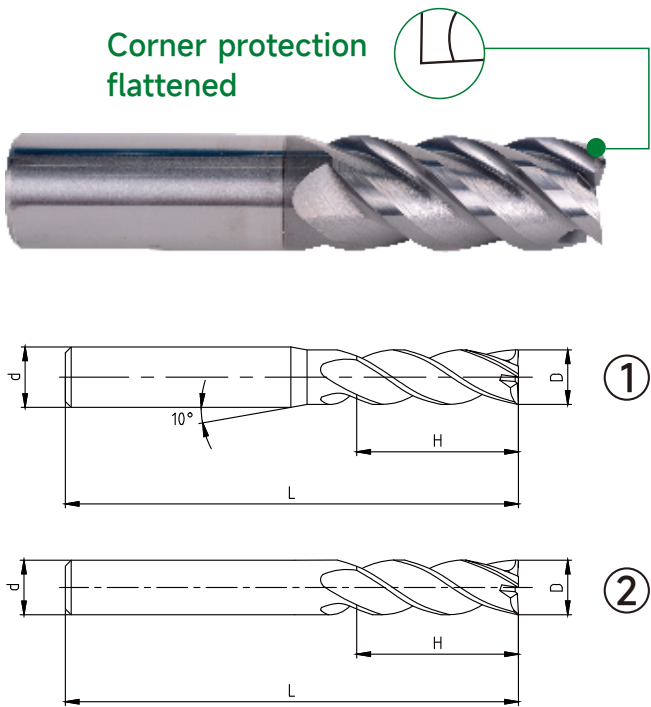
OMH-4E

01

4-Flute Straight Shank
Flat End Mills

- ◎ Suitable for side milling and shallow slot milling.
- ◎ Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMH-4E-010F	1.0	3	3	50	4	①	●
OMH-4E-010S	1.0	4	3	50	4	①	●
OMH-4E-010	1.0	6	3	50	4	①	●
OMH-4E-015F	1.5	3	4	50	4	①	●
OMH-4E-015S	1.5	4	4	50	4	①	●
OMH-4E-015	1.5	6	4	50	4	①	●
OMH-4E-020F	2.0	3	6	50	4	①	●
OMH-4E-020S	2.0	4	6	50	4	①	●
OMH-4E-020	2.0	6	6	50	4	①	●
OMH-4E-025F	2.5	3	8	50	4	①	●
OMH-4E-025S	2.5	4	8	50	4	①	●
OMH-4E-025	2.5	6	8	50	4	①	●
OMH-4E-030F	3.0	3	8	50	4	②	●
OMH-4E-030S	3.0	4	8	50	4	①	●
OMH-4E-030	3.0	6	8	50	4	①	●
OMH-4E-035S	3.5	4	10	50	4	①	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMH-4E-040S	4.0	4	11	50	4	②	●
OMH-4E-035	3.5	6	10	50	4	①	●
OMH-4E-040	4.0	6	11	50	4	①	●
OMH-4E-045	4.5	6	11	50	4	①	●
OMH-4E-050	5.0	6	13	50	4	①	●
OMH-4E-055	5.5	6	16	50	4	①	●
OMH-4E-060	6.0	6	6	50	4	②	●
OMH-4E-070	7.0	8	20	60	4	①	●
OMH-4E-080	8.0	8	20	60	4	②	●
OMH-4E-090	9.0	10	22	75	4	①	●
OMH-4E-100	10.0	10	25	75	4	②	●
OMH-4E-110	11.0	12	26	75	4	①	●
OMH-4E-120	12.0	12	30	75	4	②	●
OMH-4E-140	14.0	14	32	75	4	②	●
OMH-4E-160	16.0	16	45	100	4	②	●
OMH-4E-180	18.0	18	45	100	4	②	●
OMH-4E-200	20.0	20	45	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-4EL

02

4-Flute Flattened End Mills
With Straight Shank And
Long Cutting Edge

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰

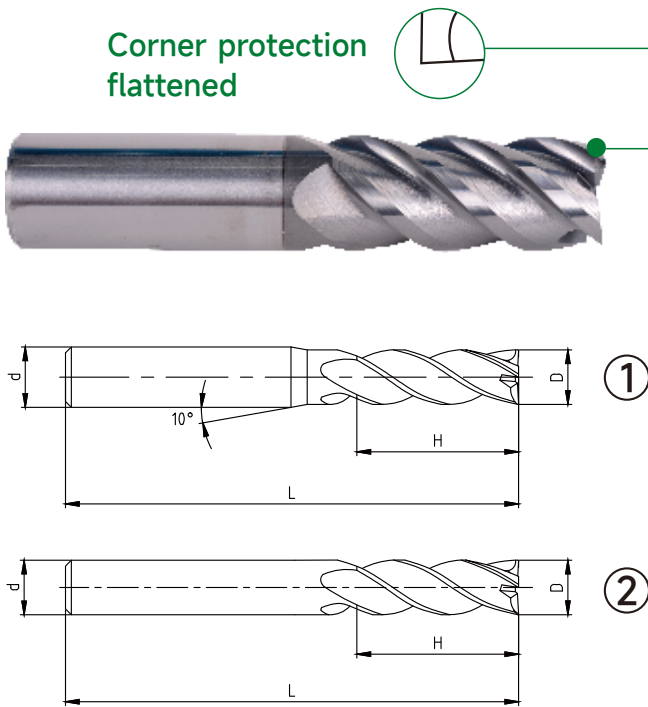
SHANK
h6

AlCrN

45°
Helix

4

Square



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMH-4E-030L	3.0	6	12	75	4	①	▲
OMH-4E-040L	4.0	6	15	75	4	①	▲
OMH-4E-050L	5.0	6	20	75	4	①	▲
OMH-4E-060L	6.0	6	20	75	4	②	▲
OMH-4E-080L	8.0	8	25	100	4	②	▲
OMH-4E-100L	10.0	10	30	100	4	②	▲
OMH-4E-120L	12.0	12	35	100	4	②	▲
OMH-4E-140L	14.0	14	40	100	4	②	▲
OMH-4E-160L	16.0	16	50	150	4	②	▲
OMH-4E-200L	20.0	20	55	150	4	②	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-4EH

03

4-Flute Long Shank Flat
End Mills

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰

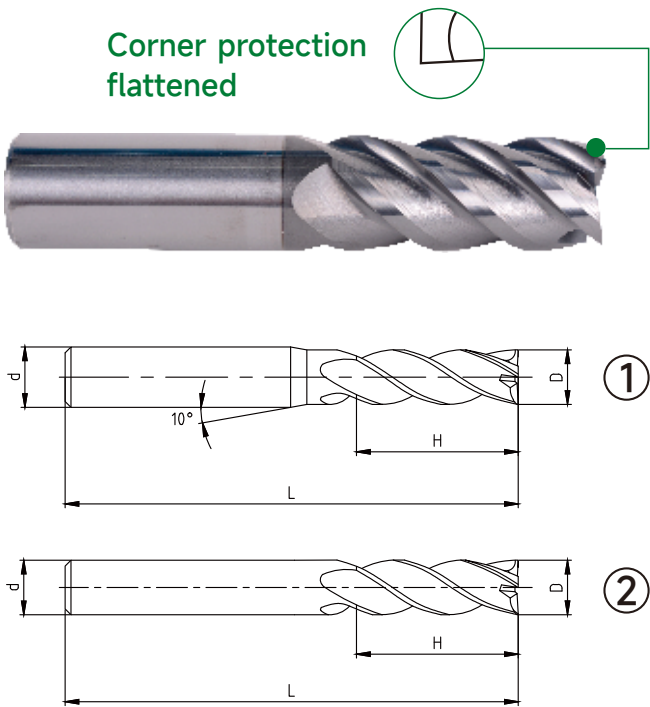
SHANK
h6

AlCrN

45°
Helix

4

Square



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMH-4E-030SH	3.0	4	8	75	4	②	●
OMH-4E-030H	3.0	6	8	75	4	②	●
OMH-4E-040SH	4.0	4	11	75	4	①	●
OMH-4E-040H	4.0	6	11	75	4	②	●
OMH-4E-060H	6.0	6	16	75	4	①	●
OMH-4E-080H	8.0	8	20	75	4	①	●
OMH-4E-100H	10.0	10	25	100	4	①	●
OMH-4E-120H	12.0	12	30	100	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

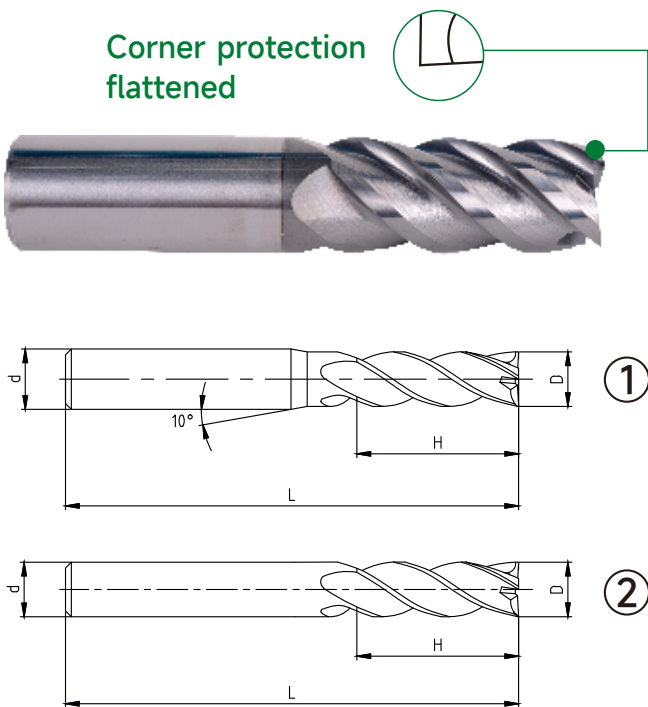
OMH-4EG

04

4-Flute Extra Long Shank
Flat End Mills

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMH-4E-060G	6.0	6	16	100	4	①	●
OMH-4E-080G	8.0	8	20	100	4	①	●
OMH-4E-100G	10.0	10	25	150	4	①	●
OMH-4E-120G	12.0	12	30	150	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-4E/4EL/4EG/4EH Cutting Parameters						
Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC		Hardened steel 50-60HRC		Hardened steel 60-68HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
1		40000	320	40000	320	32000
2		40000	800	24000	480	16000
3		32000	1020	16000	510	11000
4		24000	1250	12000	620	8000
5		19000	1360	9500	680	6400
6		16000	1540	8000	770	5300
8		12000	1540	6000	770	4000
10		9600	1540	4800	770	3200
12		8000	1600	4000	800	2700
14		6800	1340	3400	680	2300
16		6000	1200	3000	600	2000
18		5300	1060	2700	530	1800
20		4800	960	2400	480	1600

Max Cutting Depth		

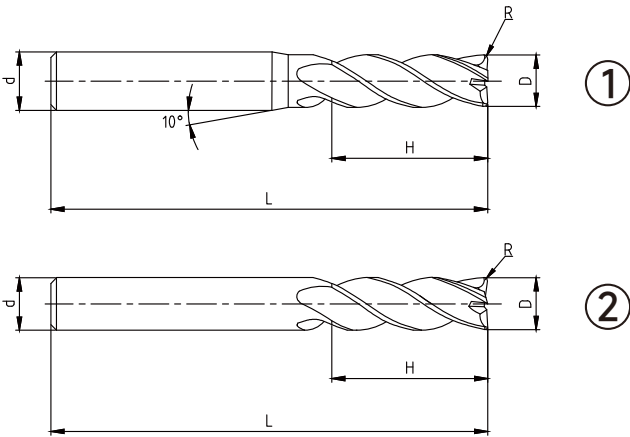
- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- climb milling is recommended in the case of side milling.
- Make overhang of tool as short as possible in conditions of non-interference.

OMH-4R05

4-Flute Straight Shank
Corner Radius End Mills

Wide application,able to achieve various forms of processing

Diameter Tolerance:
D1~D6_{-0.02} / D7~D20_{-0.025}



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	R			
OMH-4R-010R0.2S	1.0	4	3	50	0.2	4	①	●
OMH-4R-015R0.2S	1.5	4	4	50	0.2	4	①	●
OMH-4R-020R0.2S	2.0	4	6	50	0.2	4	①	●
OMH-4R-020R0.5S	2.0	4	6	50	0.5	4	①	●
OMH-4R-025R0.2S	2.5	4	8	50	0.2	4	①	●
OMH-4R-025R0.5S	2.5	4	8	50	0.5	4	①	●
OMH-4R-030R0.2S	3.0	4	8	50	0.2	4	①	●
OMH-4R-030R0.5S	3.0	4	8	50	0.5	4	①	●
OMH-4R-040R0.2S	4.0	4	10	50	0.2	4	①	●
OMH-4R-040R0.3S	4.0	4	10	50	0.3	4	①	●
OMH-4R-040R0.5S	4.0	4	10	50	0.5	4	①	●
OMH-4R-050R0.2	5.0	6	13	50	0.2	4	①	●
OMH-4R-050R0.5	5.0	6	13	50	0.5	4	②	●
OMH-4R-050R1.0	5.0	6	13	50	1.0	4	①	●
OMH-4R-060R0.2	6.0	6	16	50	0.2	4	①	●
OMH-4R-060R0.5	6.0	6	16	50	0.5	4	①	●
OMH-4R-060R1.0	6.0	6	16	50	1.0	4	②	●
OMH-4R-080R0.2	8.0	8	20	60	0.2	4	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	R			
OMH-4R-080R0.5	8.0	8	20	60	0.5	4	①	●
OMH-4R-080R1.0	8.0	8	20	60	1.0	4	①	●
OMH-4R-100R0.2	10.0	10	25	75	0.2	4	①	●
OMH-4R-100R0.5	10.0	10	25	75	0.5	4	①	●
OMH-4R-100R1.0	10.0	10	25	75	1.0	4	②	●
OMH-4R-100R2.0	10.0	10	25	75	2.0	4	①	●
OMH-4R-100R3.0	10.0	10	25	75	3.0	4	②	●
OMH-4R-120R0.2	12.0	12	30	75	0.2	4	①	●
OMH-4R-120R0.5	12.0	12	30	75	0.5	4	②	●
OMH-4R-120R1.0	12.0	12	30	75	1.0	4	①	●
OMH-4R-120R2.0	12.0	12	30	75	2.0	4	②	●
OMH-4R-120R3.0	12.0	12	30	75	3.0	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎			○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-4RH

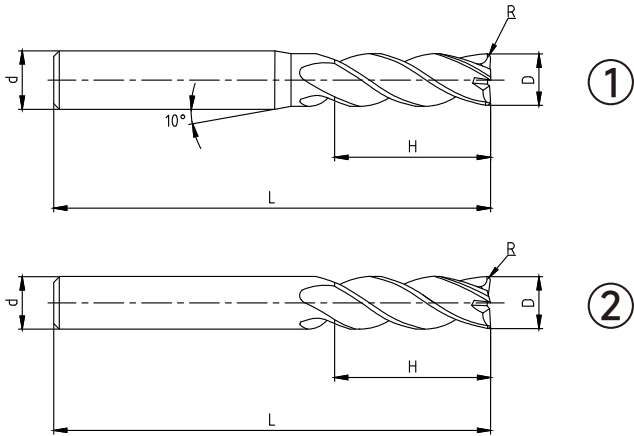
06

4-Flute Long Shank

Corner Radius End Mills

Wide application,able to achieve various forms of processing

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-4R-040R0.2SH	4.0	0.2	4	10	75	4	①	●
OMH-4R-040R0.2H	4.0	0.2	6	10	75	4	②	●
OMH-4R-040R0.5SH	4.0	0.5	4	10	75	4	①	●
OMH-4R-040R0.5H	4.0	0.5	6	10	75	4	②	●
OMH-4R-060R0.2H	6.0	0.2	6	16	75	4	①	●
OMH-4R-060R0.5H	6.0	0.5	6	16	75	4	①	●
OMH-4R-060R1.0H	6.0	1.0	6	16	75	4	①	●
OMH-4R-080R0.2H	8.0	0.2	8	20	75	4	①	●
OMH-4R-080R0.5H	8.0	0.5	8	20	75	4	①	●
OMH-4R-080R1.0H	8.0	1.0	8	20	75	4	①	●
OMH-4R-100R0.5H	10.0	0.5	10	25	100	4	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-4R-100R1.0H	10.0	1.0	10	25	100	4	①	●
OMH-4R-100R2.0H	10.0	2.0	10	25	100	4	①	●
OMH-4R-120R0.2H	12.0	0.2	12	30	100	4	①	●
OMH-4R-120R0.5H	12.0	0.5	12	30	100	4	①	●
OMH-4R-120R1.0H	12.0	1.0	12	30	100	4	①	●
OMH-4R-120R2.0H	12.0	2.0	12	30	100	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

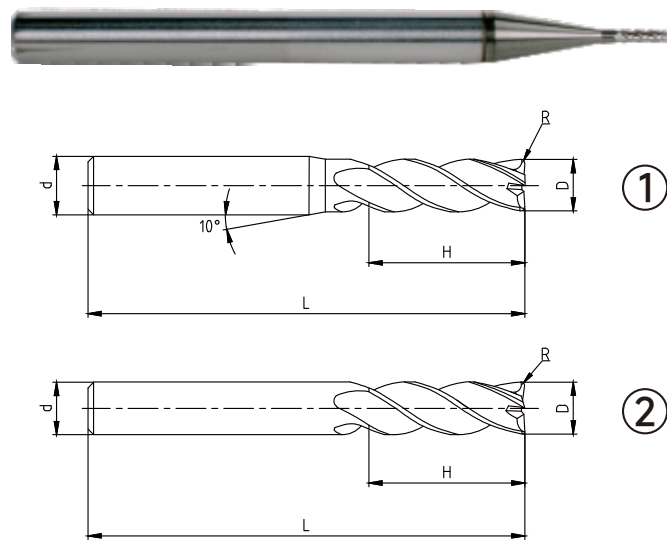
OMH-4RG

07

4-Flute Extra Long Shank
Corner Radius End Mills

Wide application,able to achieve various forms of processing

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-4R-060R0.2G	6.0	0.2	6	16	100	4	①	●
OMH-4R-060R0.5G	6.0	0.5	6	16	100	4	①	●
OMH-4R-060R1.0G	6.0	1.0	6	16	100	4	①	●
OMH-4R-080R0.2G	8.0	0.2	8	20	100	4	①	●
OMH-4R-080R0.5G	8.0	0.5	8	20	100	4	①	●
OMH-4R-080R1.0G	8.0	1.0	8	20	100	4	①	●
OMH-4R-100R0.2G	10.0	0.2	10	25	150	4	①	●
OMH-4R-100R0.5G	10.0	0.5	10	25	150	4	①	●
OMH-4R-100R1.0G	10.0	1.0	10	25	150	4	①	●
OMH-4R-100R2.0G	10.0	2.0	10	25	150	4	①	●
OMH-4R-120R0.2G	12.0	0.2	12	30	150	4	①	●
OMH-4R-120R0.5G	12.0	0.5	12	30	150	4	①	●
OMH-4R-120R1.0G	12.0	1.0	12	30	150	4	①	●
OMH-4R-120R2.0G	12.0	2.0	12	30	150	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL									
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy
		~40	~50	~55	~68				
○	○	◎	◎	◎		○	○		

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-4R/4RH/4RG Cutting Parameters						
Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC		Hardened steel 50-60HRC		Hardened steel 60-68HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
3	32000	1225	16000	610	11000	420
4	24000	1500	12000	745	8000	500
5	19000	1630	9500	815	6400	550
6	16000	1850	8000	925	5300	610
8	12000	1850	6000	925	4000	610
10	9600	1850	4800	925	3200	610
12	8000	1920	4000	960	2700	648
16	6000	1440	3000	720	2000	480
Max Cutting Depth						
Max ae = 1.0mm		Max ae = 0.5mm		Max ae = 0.3mm		

- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- climb milling is recommended in the case of side milling.
- Make overhang of tool as short as possible in conditions of non-interference.

OMH-2B

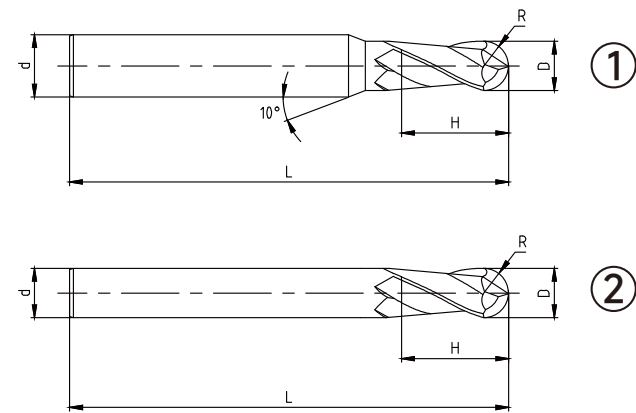
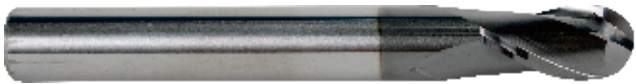
08

2-Flute Straight Shank

Ball Nose End Mills

◎ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-2B-010R0.5S	1.0	0.5	4	2	50	2	①	●
OMH-2B-010R0.5	1.0	0.5	6	2	50	2	①	●
OMH-2B-015R0.75S	1.5	0.75	4	3	50	2	①	●
OMH-2B-015R0.75	1.5	0.75	6	3	50	2	①	●
OMH-2B-020R1.0S	2.0	1.0	4	4	50	2	①	●
OMH-2B-020R1.0	2.0	1.0	6	4	50	2	①	●
OMH-2B-025R1.25S	2.5	1.25	4	5	50	2	①	●
OMH-2B-025R1.25	2.5	1.25	6	5	50	2	①	●
OMH-2B-030R1.5S	3.0	1.5	4	6	50	2	①	●
OMH-2B-030R1.5	3.0	1.0	6	6	50	2	①	●
OMH-2B-035R1.75	3.5	1.75	6	8	50	2	①	●
OMH-2B-040R2.0S	4.0	2.0	4	8	50	2	②	●
OMH-2B-040R2.0	4.0	2.0	6	8	50	2	①	●
OMH-2B-050R2.5	5.0	2.5	6	10	50	2	①	●
OMH-2B-055R2.75	5.5	2.75	6	12	50	2	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-2B-060R3.0	6.0	3.0	6	12	50	2	②	●
OMH-2B-070R3.5	7.0	3.5	8	14	60	2	①	●
OMH-2B-080R4.0	8.0	4.0	8	16	60	2	②	●
OMH-2B-090R4.5	9.0	4.5	10	18	75	2	①	●
OMH-2B-100R5.0	10.0	5.0	10	20	75	2	②	●
OMH-2B-120R6.0	12.0	6.0	12	24	75	2	②	●
OMH-2B-140R7.0	14.0	7.0	14	28	75	2	②	●
OMH-2B-160R8.0	16.0	8.0	16	32	100	2	②	●
OMH-2B-200R10.0	20.0	10.0	20	40	100	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

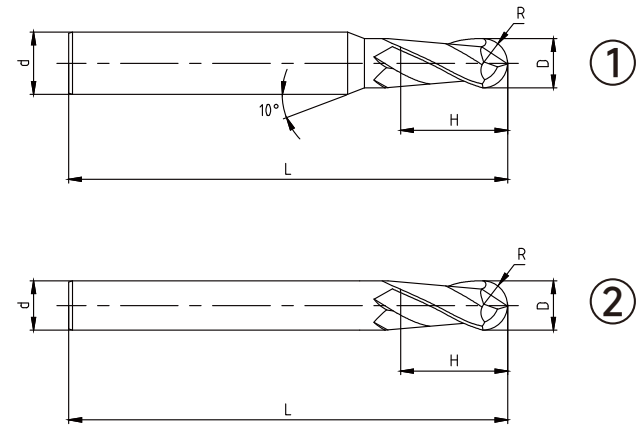
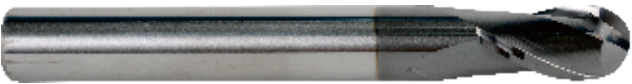
OMH-2BH

09

2-Flute Long Shank Ball
Nose End Mills

◎ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-2B-020R1.0SH	2.0	1.0	4	4	75	2	①	●
OMH-2B-020R1.0H	2.0	1.0	6	4	75	2	①	●
OMH-2B-025R1.25SH	2.5	1.25	4	5	75	2	①	●
OMH-2B-025R1.25H	2.5	1.25	6	5	75	2	①	●
OMH-2B-030R1.5SH	3.0	1.5	4	6	75	2	①	●
OMH-2B-030R1.5H	3.0	1.5	6	6	75	2	①	●
OMH-2B-035R1.75SH	3.5	1.75	4	8	75	2	①	●
OMH-2B-035R1.75H	3.5	1.75	6	8	75	2	①	●
OMH-2B-040R2.0SH	4.0	2.0	4	8	75	2	②	●
OMH-2B-040R2.0H	4.0	2.0	6	8	75	2	①	●
OMH-2B-050R2.5H	5.0	2.5	6	10	75	2	①	●
OMH-2B-055R2.75H	5.5	2.75	6	12	75	2	①	●
OMH-2B-060R3.0H	6.0	3.0	6	12	75	2	②	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-2B-070R3.5H	7.0	3.5	8	14	75	2	①	●
OMH-2B-080R4.0H	8.0	4.0	8	14	75	2	②	●
OMH-2B-090R4.5H	9.0	4.5	10	18	100	2	①	●
OMH-2B-100R5.0H	10.0	5.0	10	20	100	2	②	●
OMH-2B-120R6.0H	12.0	6.0	12	24	100	2	②	●
OMH-2B-140R7.0H	14.0	7.0	14	28	150	2	②	●
OMH-2B-160R8.0H	16.0	8.0	16	32	150	2	②	●
OMH-2B-200R10.0H	20.0	10.0	20	40	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

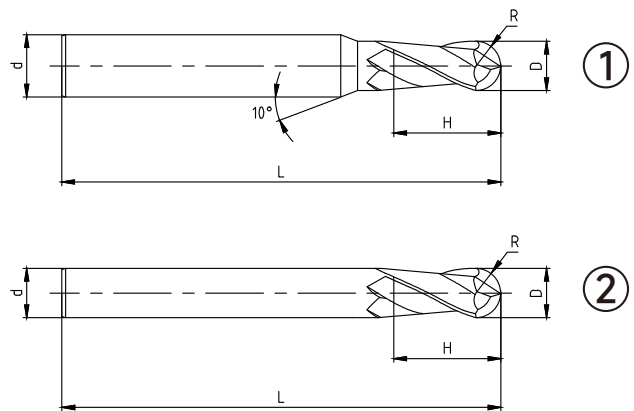
OMH-2BG10

2-Flute Extra Long Shank

Ball Nose End Mills

● Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



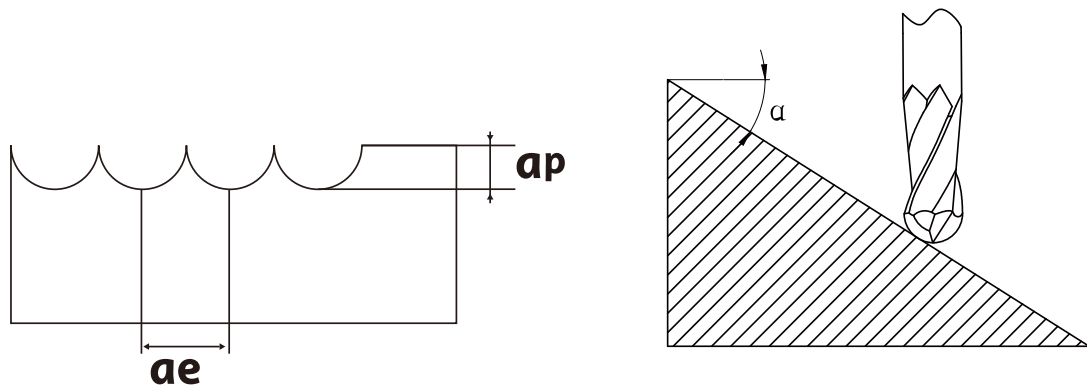
TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMH-2B-060R3.0G	6.0	3.0	6	12	100	2	②	●
OMH-2B-080R4.0G	8.0	4.0	8	16	100	2	②	●
OMH-2B-100R5.0G	10.0	5.0	10	20	150	2	②	●
OMH-2B-120R6.0G	12.0	6.0	12	24	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎		○	○				

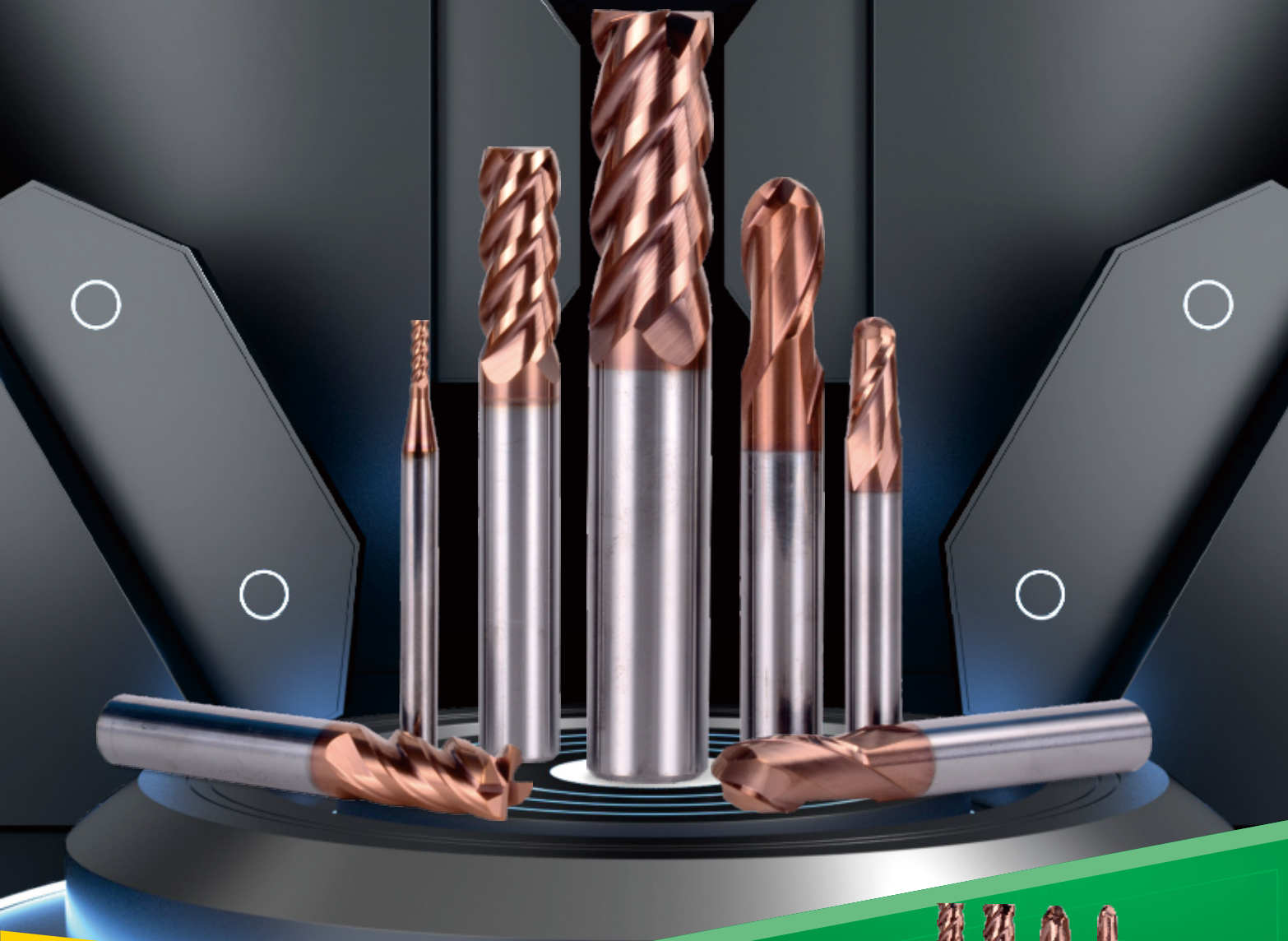
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMH-2B/2BH/G Cutting Parameters												
Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC				Hardened steel 50-60HRC				Hardened steel 60-68HRC			
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)
R0.5	40000	1900	0.01	0.05	36000	1500	0.01	0.05	32000	1400	0.01	0.05
R1.0	33000	3100	0.02	0.075	26000	2100	0.02	0.075	24000	2000	0.02	0.075
R1.5	29000	4100	0.03	0.1	23000	2900	0.03	0.1	21000	2600	0.03	0.1
R2.0	22000	3900	0.04	0.15	17000	2500	0.04	0.15	15500	2100	0.04	0.15
R2.5	17500	3500	0.05	0.15	13500	2200	0.05	0.15	13000	2000	0.05	0.15
R3.0	15000	3100	0.06	0.2	11500	1700	0.06	0.2	10500	1500	0.06	0.2
R4.0	11000	2500	0.08	0.25	8600	1600	0.08	0.25	8000	1400	0.08	0.25
R5.0	9000	2000	0.1	0.3	7000	1400	0.1	0.3	6000	1200	0.1	0.3
R6.0	7500	1800	0.1	0.35	5700	1300	0.1	0.35	5300	1200	0.1	0.35
R8.0	5500	1800	0.1	0.4	4300	1300	0.1	0.4	4000	1200	0.1	0.4
R10.0	4500	1800	0.1	0.5	3500	1300	0.1	0.5	3200	1200	0.1	0.5
Max Cutting Depth												



- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- If inclination angle α over 15 °, please reduce the speed to 50%-80% of above table.
- Make overhang of tool as short as possible in conditions of non-interference.

OMHH SERIES FOR HIGH-HARDENED STEEL MACHINING



OKE 欧科亿



OMHH

Product series

Product series

OMHH

Series For High-hardened Steel Machining

High-rigidity and high-strength cutting edge structure design

- ① Ensuring sufficient chip space, meanwhile adopt large core body to improve the tool rigidity
- ② Negative rake angle, which makes the cutting edge strength and cutting force match reasonably, and gives a wider range of applications
- ③ Strict and scientific chip breaker geometric design, gives more stable cutting



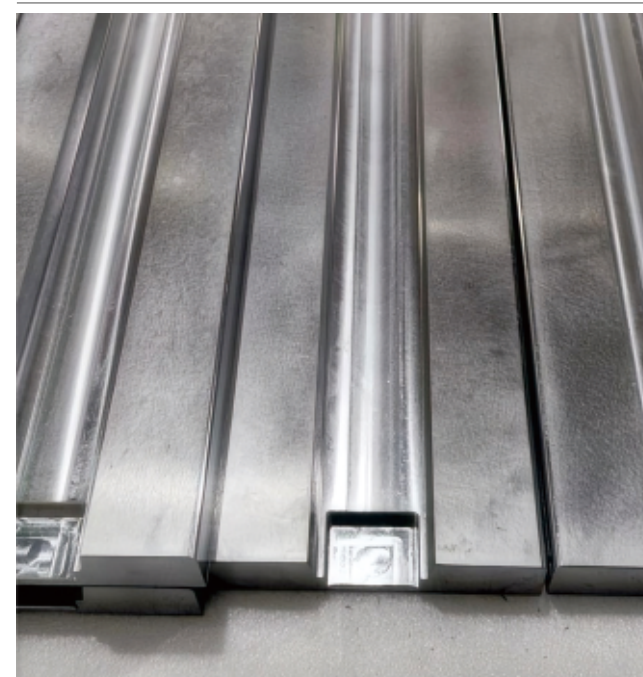
New ultra fine cemented carbide substrate

- ① New ultra fine cemented carbide substrate, Wc grain size is 0.2um
- ② Ultra-high hardness substrate material, micro-hardness > 2050HV
- ③ Super high strength and toughness, tensile strength > 4200N/MM

Fine cutting edge surface treatment

- ① Smooth rake face surface, smooth chip removal, less cutting resistance
- ② The stress between coating and substrate is improved
- ③ Reduce cutting viscosity.

CUTTING SHAPE



CUTTING CONDITIONS AND RESULTS

WORKPIECE	Lower laminate body piece
TOOL TYPE	OMHH-4R-080R0.5 A famous domestic brand
WORKPIECE MATERIAL	S136 mold steel (HRC52)
ROTATING SPEED	11000
FEED SPEED	600
CUTTING DEPTH	0.2-0.5
CUTTING WIDTH	0.07
COOLING METHOD	Cooling fluid



OMHH-4E01

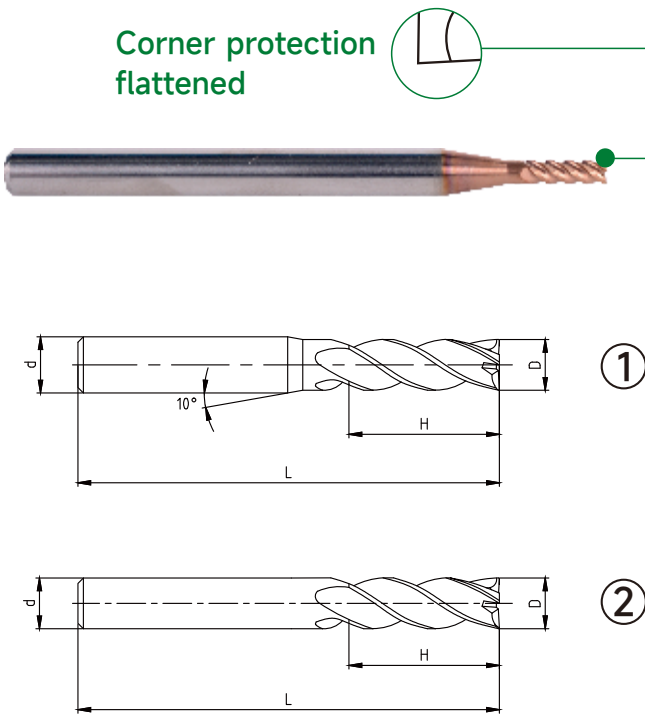
4-Flute Straight Shank Flat End Mills

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMHH-4E-010F	1.0	3	3	50	4	①	●
OMHH-4E-010S	1.0	4	3	50	4	①	●
OMHH-4E-010	1.0	6	3	50	4	①	●
OMHH-4E-015F	1.5	3	4	50	4	①	●
OMHH-4E-015S	1.5	4	4	50	4	①	●
OMHH-4E-015	1.5	6	4	50	4	①	●
OMHH-4E-020F	2.0	3	6	50	4	①	●
OMHH-4E-020S	2.0	4	6	50	4	①	●
OMHH-4E-020	2.0	6	6	50	4	①	●
OMHH-4E-025F	2.5	3	8	50	4	①	●
OMHH-4E-025S	2.5	4	8	50	4	①	●
OMHH-4E-025	2.5	6	8	50	4	①	●
OMHH-4E-030F	3.0	3	8	50	4	②	●
OMHH-4E-030S	3.0	4	8	50	4	①	●
OMHH-4E-030	3.0	6	8	50	4	①	●
OMHH-4E-035S	3.5	4	10	50	4	①	●
OMHH-4E-040S	4.0	4	11	50	4	②	●



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMHH-4E-035	3.5	6	10	50	4	①	●
OMHH-4E-040	4.0	6	11	50	4	①	●
OMHH-4E-045	4.5	6	11	50	4	①	●
OMHH-4E-050	5.0	6	13	50	4	①	●
OMHH-4E-055	5.5	6	16	50	4	①	●
OMH-4E-055	6.0	6	16	50	4	②	●
OMHH-4E-070	7.0	8	20	60	4	①	●
OMHH-4E-080	8.0	8	20	60	4	②	●
OMHH-4E-090	9.0	10	22	75	4	①	●
OMHH-4E-100	10.0	10	25	75	4	②	●
OMHH-4E-110	11.0	12	26	75	4	①	●
OMHH-4E-120	12.0	12	30	75	4	②	●
OMHH-4E-140	14.0	14	32	75	4	②	●
OMHH-4E-160	16.0	16	45	100	4	②	●
OMHH-4E-180	18.0	18	45	100	4	②	●
OMHH-4E-200	20.0	20	45	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-4EL

02

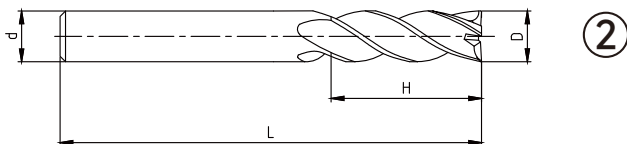
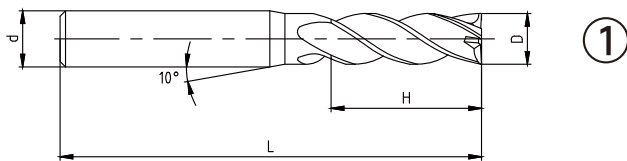
4-Flute Flat End Mills With
Straight Shank And Long
Cutting Edge

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



Corner protection
flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMHH-4E-030L	3.0	6	12	75	4	①	▲
OMHH-4E-040L	4.0	6	15	75	4	①	▲
OMHH-4E-050L	5.0	6	20	75	4	①	▲
OMHH-4E-060L	6.0	6	20	75	4	②	▲
OMHH-4E-080L	8.0	8	25	100	4	②	▲
OMHH-4E-100L	10.0	10	30	100	4	②	▲
OMHH-4E-120L	12.0	12	35	100	4	②	▲
OMHH-4E-140L	14.0	14	40	100	4	②	▲
OMHH-4E-160L	16.0	16	50	150	4	②	▲
OMHH-4E-200L	20.0	20	55	150	4	②	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

MHH-4EH

03

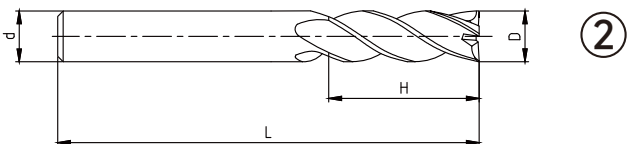
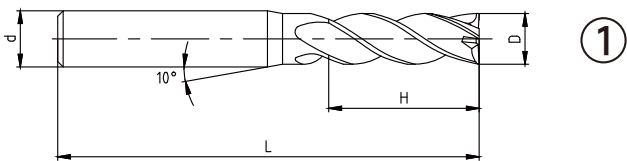
4-Flutes Long Shank Flat
End Mill

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



Corner protection
flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMHH-4E-030SH	3.0	4	8	75	4	②	●
OMHH--4E-030H	3.0	6	8	75	4	②	●
OMHH-4E-040SH	4.0	4	11	75	4	①	●
OMHH-4E-040H	4.0	6	11	75	4	②	●
OMHH-4E-060H	6.0	6	16	75	4	①	●
OMHH-4E-080H	8.0	8	20	75	4	①	●
OMHH-4E-100H	10.0	10	25	100	4	①	●
OMHH-4E-120H	12.0	12	30	100	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎		○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-4EG

04

4-Flutes Extra Long Shank

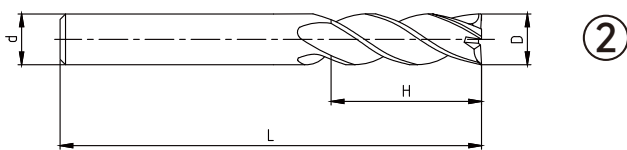
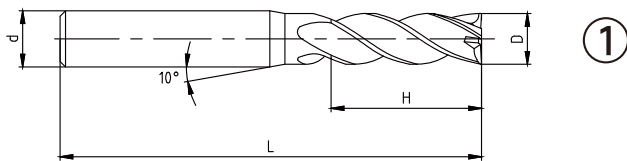
Flat End Mill

- Suitable for side milling and shallow slot milling.
- Most suitable for high speed milling and dry milling.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



Corner protection
flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMHH-4E-060G	6.0	6	16	100	4	①	●
OMHH-4E-080G	8.0	8	20	100	4	①	●
OMHH-4E-100G	10.0	10	25	150	4	①	●
OMHH-4E-120G	12.0	12	30	150	4	①	●

● Stock available ▲ Make-to-order

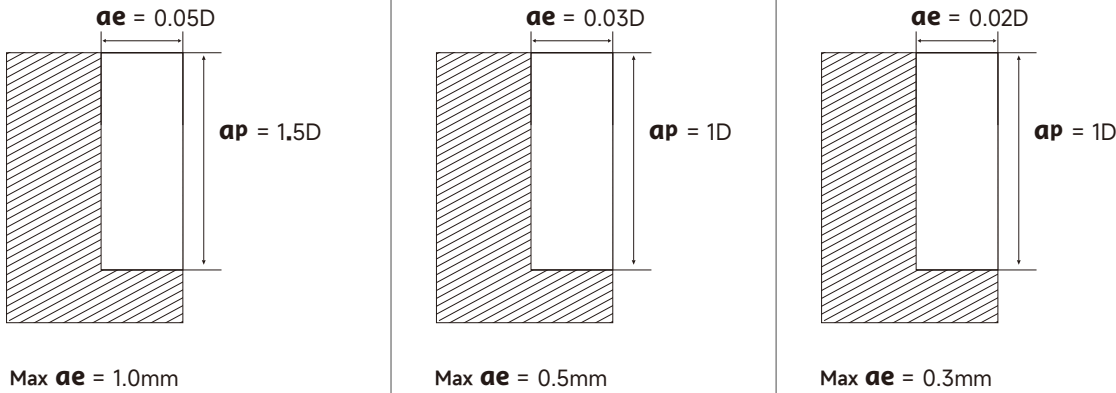
WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎		○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-4E/4EL/4EG/4EH Cutting Parameters

Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC		Hardened steel 50-60HRC		Hardened steel 60-68HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
1	40000	320	40000	320	32000	260
2	40000	800	24000	480	16000	320
3	32000	1020	16000	510	11000	350
4	24000	1250	12000	620	8000	420
5	19000	1360	9500	680	6400	460
6	16000	1540	8000	770	5300	510
8	12000	1540	6000	770	4000	510
10	9600	1540	4800	770	3200	510
12	8000	1600	4000	800	2700	540
14	6800	1340	3400	680	2300	460
16	6000	1200	3000	600	2000	400
18	5300	1060	2700	530	1800	360
20	4800	960	2400	480	1600	320

Max Cutting Depth



- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- Climb milling is recommended in the case of side milling.
- Make overhang of tool as short as possible in conditions of non-interference.

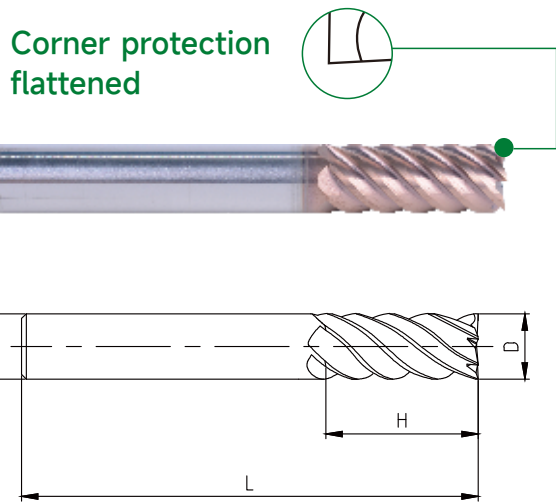
OMHH-6E

05

6-Flute Straight Shank Flat End Mills

- The tool has good rigidity and can minimize the amount of tool clearance during side cutting.
- It is most suitable for high-speed cutting and dry cutting.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D6~D14_{-0.025}⁰ / D15~D20_{-0.03}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L			
OMHH-6E-060	6	6	18	60	6		●
OMHH-6E-080	8	8	20	60	6		●
OMHH-6E-100	10	10	30	75	6		●
OMHH-6E-120	12	12	32	75	6		●
OMHH-6E-160	16	16	40	100	6		●
OMHH-6E-200	20	20	45	100	6		●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
		○	◎	◎			○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-6E Cutting Parameters						
Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC		Hardened steel 50-60HRC		Hardened steel 60-68HRC	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
6	16000	1850	8000	925	5300	610
8	12000	1850	6000	925	4000	610
10	9600	1850	4800	925	3200	610
12	8000	1920	4000	960	2700	650
14	6800	1600	3400	815	2300	550
16	6000	1440	3000	720	2000	480
18	5300	1270	2700	635	1800	430
20	4800	1150	2400	575	1600	385

Max Cutting Depth		
Max ae = 1.0mm	Max ae = 0.5mm	Max ae = 0.3mm

- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- Climb milling is recommended in the case of side milling.
- Make overhang of tool as short as possible in conditions of non-interference.

OMHH-6EL

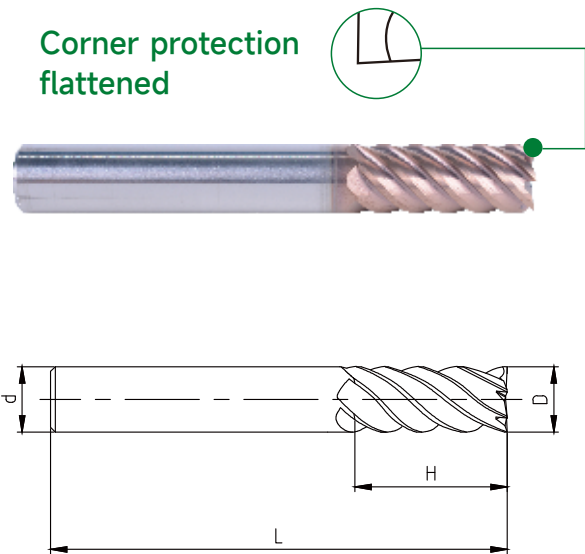
06

6-Flute Flat End Mills With
Straight Shank And Long
Cutting Edge

- The tool has good rigidity and can minimize the amount of tool clearance during side cutting.
- It is most suitable for high-speed cutting and dry cutting.

Diameter Tolerance:
D1~D6_{-0.02} / D6~D14_{-0.025} / D15~D20_{-0.03}

Corner protection
flattened



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L			
OMHH-6E-060L	6	6	24	75	6	①	●
OMHH-6E-080L	8	8	32	75	6	●	●
OMHH-6E-100L	10	10	40	100	6	●	●
OMHH-6E-120L	12	12	45	100	6	●	●
OMHH-6E-160L	16	16	64	150	6	●	●
OMHH-6E-200L	20	20	75	150	6	●	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
		○	◎	◎			○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

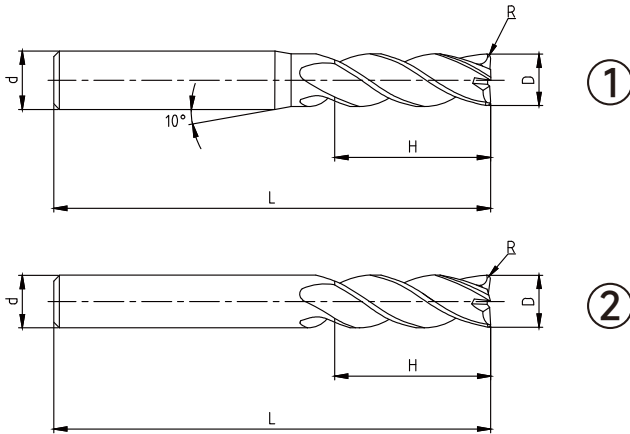
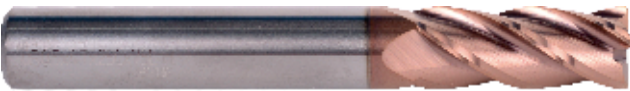
OMHH-4R

07

4-Flutes Straight Shank
Corner Radius End Mills

- Wide range of applications,able to achieve various forms of processing

Diameter Tolerance:
D1~D6_{-0.02} / D7~D20_{-0.025}



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	GEOMETRY	STOCK
	D	d	H	L	R			
OMHH-4R-010R0.2S	1.0	4	3	50	0.2	4	①	●
OMHH-4R-015R0.2S	1.5	4	4	50	0.2	4	①	●
OMHH-4R-020R0.2S	2.0	4	6	50	0.2	4	①	●
OMHH-4R-020R0.5S	2.0	4	6	50	0.5	4	①	●
OMHH-4R-025R0.2S	2.5	4	8	50	0.2	4	①	●
OMHH-4R-025R0.5S	2.5	4	8	50	0.5	4	①	●
OMHH-4R-030R0.2S	3.0	4	8	50	0.2	4	①	●
OMHH-4R-030R0.5S	3.0	4	8	50	0.5	4	①	●
OMHH-4R-040R0.2S	4.0	4	10	50	0.2	4	①	●
OMHH-4R-040R0.3S	4.0	4	10	50	0.3	4	①	●
OMHH-4R-040R0.5S	4.0	4	10	50	0.5	4	①	●
OMHH-4R-050R0.2	5.0	6	13	50	0.2	4	①	●
OMHH-4R-050R0.5	5.0	6	13	50	0.5	4	②	●
OMHH-4R-050R1.0	5.0	6	13	50	1.0	4	①	●
OMHH-4R-060R0.2	6.0	6	16	50	0.2	4	①	●
OMHH-4R-060R0.5	6.0	6	16	50	0.5	4	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	R			
OMHH-4R-060R1.0	6.0	6	16	50	1.0	4	②	●
OMHH-4R-080R0.2	8.0	8	20	60	0.2	4	①	●
OMHH-4R-080R0.5	8.0	8	20	60	0.5	4	①	●
OMHH-4R-080R1.0	8.0	8	20	60	1.0	4	①	●
OMHH-4R-100R0.2	10.0	10	25	75	0.2	4	①	●
OMHH-4R-100R0.5	10.0	10	25	75	0.5	4	①	●
OMHH-4R-100R1.0	10.0	10	25	75	1.0	4	②	●
OMHH-4R-100R2.0	10.0	10	25	75	2.0	4	①	●
OMHH-4R-100R3.0	10.0	10	25	75	3.0	4	②	●
OMHH-4R-120R0.2	12.0	12	30	75	0.2	4	①	●
OMHH-4R-120R0.5	12.0	12	30	75	0.5	4	②	●
OMHH-4R-120R1.0	12.0	12	30	75	1.0	4	①	●
OMHH-4R-120R2.0	12.0	12	30	75	2.0	4	②	●
OMHH-4R-120R3.0	12.0	12	30	75	3.0	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎			○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-4RH

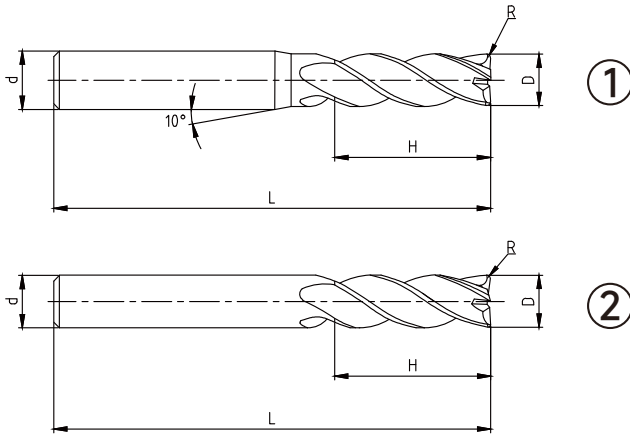
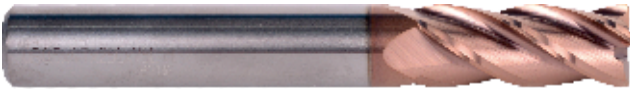
08

4-Flutes Long Shank

Corner Radius End Mill

Wide range of applications,able to achieve various forms of processing

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-4R-040R0.2SH	4.0	0.2	4	10	75	4	①	●
OMHH-4R-040R0.2H	4.0	0.2	6	10	75	4	②	●
OMHH-4R-040R0.5SH	4.0	0.5	4	10	75	4	①	●
OMHH-4R-040R0.5H	4.0	0.5	6	10	75	4	②	●
OMHH-4R-060R0.2H	6.0	0.2	6	16	75	4	①	●
OMHH-4R-060R0.5H	6.0	0.5	6	16	75	4	①	●
OMHH-4R-060R1.0H	6.0	1.0	6	16	75	4	①	●
OMHH-4R-080R0.2H	8.0	0.2	8	20	75	4	①	●
OMHH-4R-080R0.5H	8.0	0.5	8	20	75	4	①	●
OMHH-4R-080R1.0H	8.0	1.0	8	20	75	4	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-4R-100R0.5H	10.0	0.5	10	25	100	4	①	●
OMHH-4R-100R1.0H	10.0	1.0	10	25	100	4	①	●
OMHH-4R-100R2.0H	10.0	2.0	10	25	100	4	①	●
OMHH-4R-120R0.2H	12.0	0.2	12	30	100	4	①	●
OMHH-4R-120R0.5H	12.0	0.5	12	30	100	4	①	●
OMHH-4R-120R1.0H	12.0	1.0	12	30	100	4	①	●
OMHH-4R-120R2.0H	12.0	2.0	12	30	100	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎			○				

Hardness unit: HRC

◎ Very suitable

○ Suitable

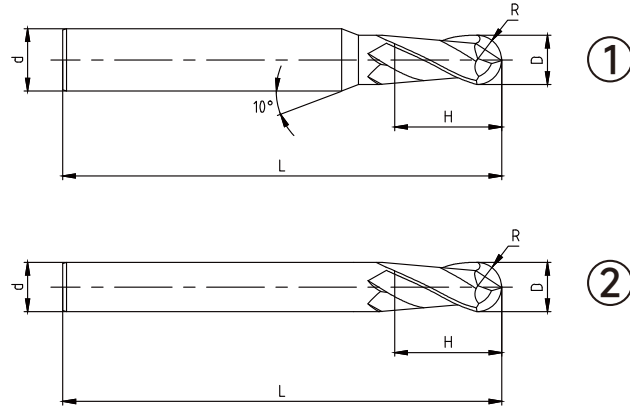
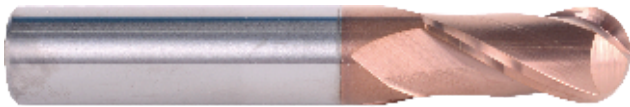
OMHH-2B

09

2-Flute Straight Shank Ball Nose End Mills

◎ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-2B-010R0.5S	1.0	0.5	4	2	50	2	①	●
OMHH-2B-010R0.5	1.0	0.5	6	2	50	2	①	●
OMHH-2B-015R0.75S	1.5	0.75	4	3	50	2	①	●
OMHH-2B-015R0.75	1.5	0.75	6	3	50	2	①	●
OMHH-2B-020R1.0S	2.0	1.0	4	4	50	2	①	●
OMHH-2B-020R1.0	2.0	1.0	6	4	50	2	①	●
OMHH-2B-025R1.25S	2.5	1.25	4	5	50	2	①	●
OMHH-2B-025R1.25	2.5	1.25	6	5	50	2	①	●
OMHH-2B-030R1.5S	3.0	1.5	4	6	50	2	①	●
OMHH-2B-030R1.5	3.0	1.0	6	6	50	2	①	●
OMHH-2B-035R1.75	3.5	1.75	6	8	50	2	①	●
OMHH-2B-040R2.0S	4.0	2.0	4	8	50	2	②	●
OMHH-2B-040R2.0	4.0	2.0	6	8	50	2	①	●
OMHH-2B-050R2.5	5.0	2.5	6	10	50	2	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-2B-055R2.75	5.5	2.75	6	12	50	2	①	●
OMHH-2B-060R3.0	6.0	3.0	6	12	50	2	②	●
OMHH-2B-070R3.5	7.0	3.5	8	14	60	2	①	●
OMHH-2B-080R4.0	8.0	4.0	8	16	60	2	②	●
OMHH-2B-090R4.5	9.0	4.5	10	18	75	2	①	●
OMHH-2B-100R5.0	10.0	5.0	10	20	75	2	②	●
OMHH-2B-120R6.0	12.0	6.0	12	24	75	2	②	●
OMHH-2B-140R7.0	14.0	7.0	14	28	75	2	②	●
OMHH-2B-160R8.0	16.0	8.0	16	32	100	2	②	●
OMHH-2B-200R10.0	20.0	10.0	20	40	100	2	②	●

● Stock available ▲ Make-to-order

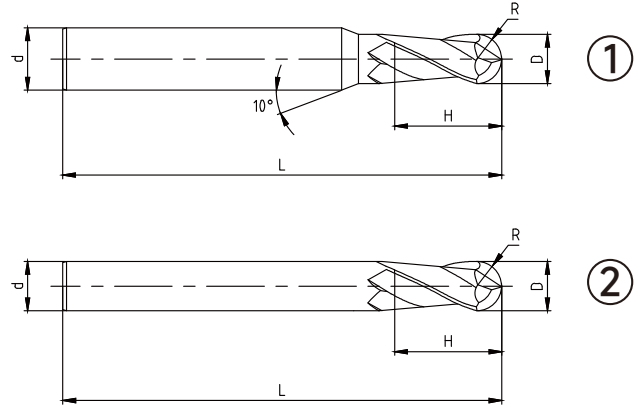
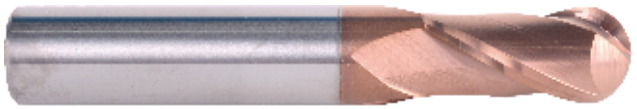
WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				
Hardness unit: HRC ◎ Very suitable ○ Suitable											

OMHH-2BH10

2-Flute Long Shank Ball Nose End Mills

◎ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-2B-020R1.0SH	2.0	1.0	4	4	75	2	①	●
OMHH-2B-020R1.0H	2.0	1.0	6	4	75	2	①	●
OMHH-2B-025R1.25SH	2.5	1.25	4	5	75	2	①	●
OMHH-2B-025R1.25H	2.5	1.25	6	6	75	2	①	●
OMHH-2B-030R1.5SH	3.0	1.5	4	6	75	2	①	●
OMHH-2B-030R1.5H	3.0	1.5	6	6	75	2	①	●
OMHH-2B-035R1.75SH	3.5	1.75	4	8	75	2	①	●
OMHH-2B-035R1.75H	3.5	1.75	6	8	75	2	①	●
OMHH-2B-040R2.0SH	4.0	2.0	4	8	75	2	②	●
OMHH-2B-040R2.0H	4.0	2.0	6	8	75	2	①	●
OMHH-2B-050R2.5H	5.0	2.5	6	10	75	2	①	●
OMHH-2B-055R2.75H	5.5	2.75	6	12	75	2	①	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-2B-060R3.0H	6.0	3.0	6	12	75	2	②	●
OMHH-2B-070R3.5H	7.0	3.5	8	14	75	2	①	●
OMHH-2B-080R4.0H	8.0	4.0	8	16	75	2	②	●
OMHH-2B-090R4.5H	9.0	4.5	10	18	100	2	①	●
OMHH-2B-100R5.0H	10.0	5.0	10	20	100	2	②	●
OMHH-2B-120R6.0H	12.0	6.0	12	24	100	2	②	●
OMHH-2B-140R7.0H	14.0	7.0	14	28	150	2	②	●
OMHH-2B-160R8.0H	16.0	8.0	16	32	150	2	②	●
OMHH-2B-200R10.0H	20.0	10.0	20	40	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				

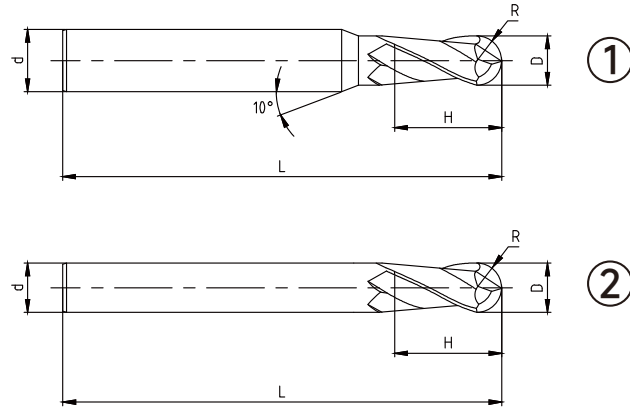
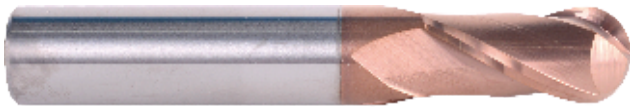
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-2BG11

2-Flute Extra Long Shank
Ball Nose End Mills

◎ Suitable for profile milling, and high speed machining, with wide range of applications.

Diameter Tolerance D1~D20 $_{-0.02}^0$ R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-2B-060R3.0G	6.0	3.0	6	12	100	2	②	●
OMHH-2B-080R4.0G	8.0	4.0	8	16	100	2	②	●
OMHH-2B-100R5.0G	10.0	5.0	10	20	150	2	②	●
OMHH-2B-120R6.0G	12.0	6.0	12	24	150	2	②	●

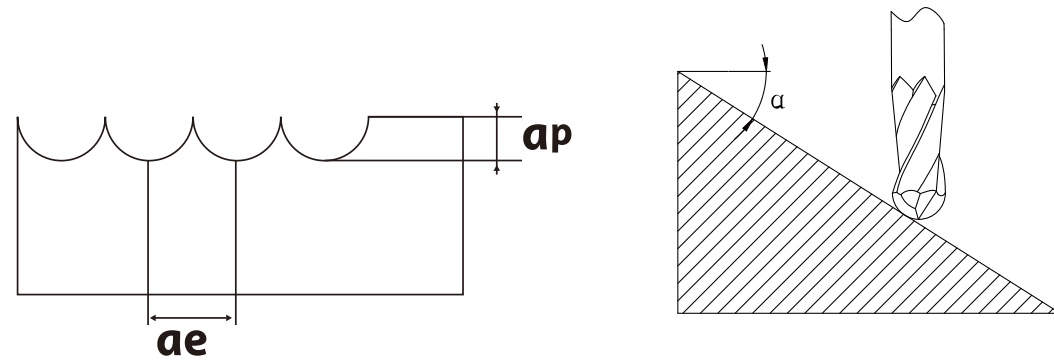
● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-2B/2BH/G Cutting Parameters

Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC				Hardened steel 50-60HRC				Hardened steel 60-68HRC				
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)
R0.5	40000	1900	0.01	0.05	36000	1500	0.01	0.05	32000	1400	0.01	0.05	
R1.0	33000	3100	0.02	0.075	26000	2100	0.02	0.075	24000	2000	0.02	0.075	
R1.5	29000	4100	0.03	0.1	23000	2900	0.03	0.1	21000	2600	0.03	0.1	
R2.0	22000	3900	0.04	0.15	17000	2500	0.04	0.15	15500	2100	0.04	0.15	
R2.5	17500	3500	0.05	0.15	13500	2200	0.05	0.15	13000	2000	0.05	0.15	
R3.0	15000	3100	0.06	0.2	11500	1700	0.06	0.2	10500	1500	0.06	0.2	
R4.0	11000	2500	0.08	0.25	8600	1600	0.08	0.25	8000	1400	0.08	0.25	
R5.0	9000	2000	0.1	0.3	7000	1400	0.1	0.3	6000	1200	0.1	0.3	
R6.0	7500	1800	0.1	0.35	5700	1300	0.1	0.35	5300	1200	0.1	0.35	
R8.0	5500	1800	0.1	0.4	4300	1300	0.1	0.4	4000	1200	0.1	0.4	
R10.0	4500	1800	0.1	0.5	3500	1300	0.1	0.5	3200	1200	0.1	0.5	
Max Cutting Depth													



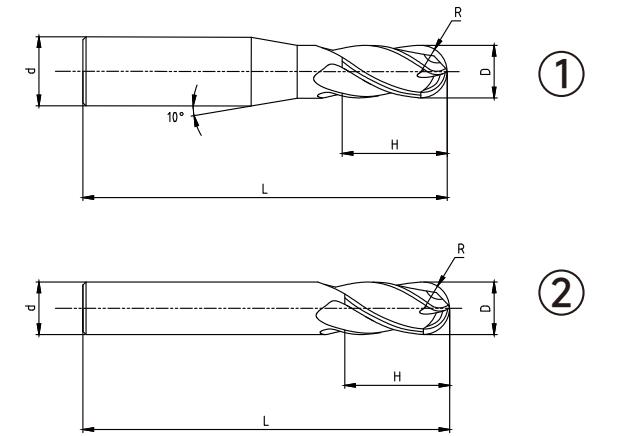
- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- If inclination angle α over 15°, please reduce the speed to 50%-80% of above table.
- Make overhang of tool as short as possible in conditions of non-interference.

OMHH-4B

12

4-Flute Straight Shank Ball Nose End Mills

- The four-edge ball nose end mill can achieve a higher feed speed, improve processing efficiency, and achieve a longer service life in processing high-hardness materials.

Diameter Tolerance D1~D20: $0_{-0.02}^0$ R ± 0.005 

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-4B-030R1.5	3	1.5	6	6	50	4	①	●
OMHH-4B-040R2.0	4	2	6	8	50	4	①	●
OMHH-4B-050R2.5	5	2.5	6	10	50	4	①	●
OMHH-4B-060R3.0	6	3	6	12	50	4	②	●
OMHH-4B-080R4.0	8	4	8	16	60	4	②	●
OMHH-4B-100R5.0	10	5	10	20	75	4	②	●
OMHH-4B-120R6.0	12	6	12	24	75	4	②	●
OMHH-4B-140R7.0	14	7	14	28	75	4	②	●
OMHH-4B-160R8.0	16	8	16	32	100	4	②	●
OMHH-4B-180R9.0	18	9	18	36	100	4	②	●
OMHH-4B-200R10.0	20	10	20	40	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○	◎	◎	◎	◎	○	○				

Hardness unit: HRC

◎ Very suitable

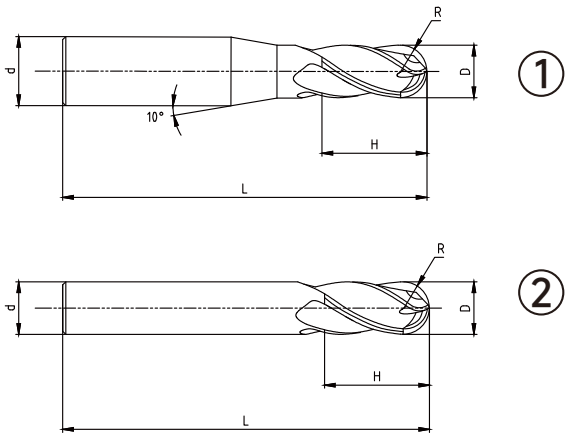
○ Suitable

OMHH-4BH13

4-Flute Long Shank Ball Nose End Mills

The four-edge ball nose end mill can achieve a higher feed speed, improve processing efficiency, and achieve a longer service life in processing high-hardness materials.

Diameter Tolerance D1~D20_{-0.02}⁰ R±0.005



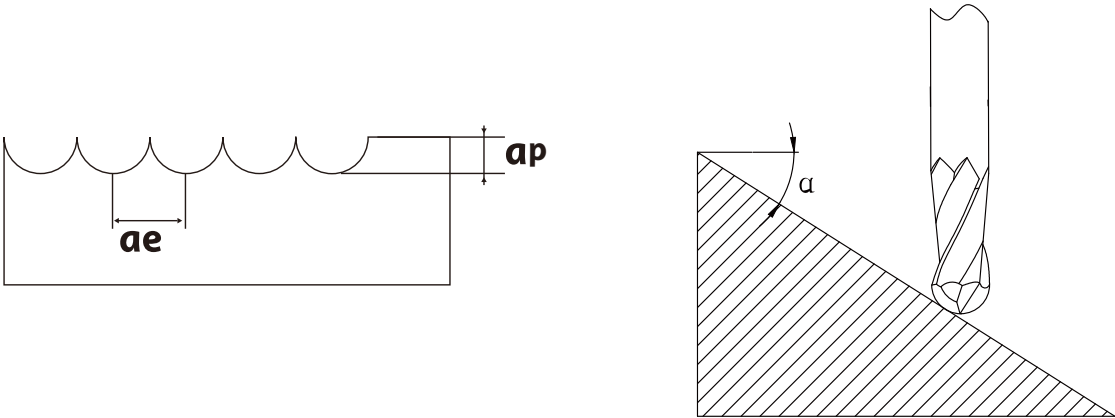
TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMHH-4B-030R1.5H	3	1.5	6	6	75	4	①	●
OMHH-4B-040R2.0H	4	2	6	8	75	4	①	●
OMHH-4B-050R2.5H	5	2.5	6	10	75	4	①	●
OMHH-4B-060R3.0H	6	3	6	12	75	4	②	●
OMHH-4B-080R4.0H	8	4	8	16	100	4	②	●
OMHH-4B-100R5.0H	10	5	10	20	100	4	②	●
OMHH-4B-120R6.0H	12	6	12	24	100	4	②	●
OMHH-4B-140R7.0H	14	7	14	28	100	4	②	●
OMHH-4B-160R8.0H	16	8	16	32	150	4	②	●
OMHH-4B-180R9.0H	18	9	18	36	150	4	②	●
OMHH-4B-200R10.0H	20	10	20	40	150	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL										
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy
		~40	~50	~55	~68					
○	○	◎	◎	◎	◎	○	○			

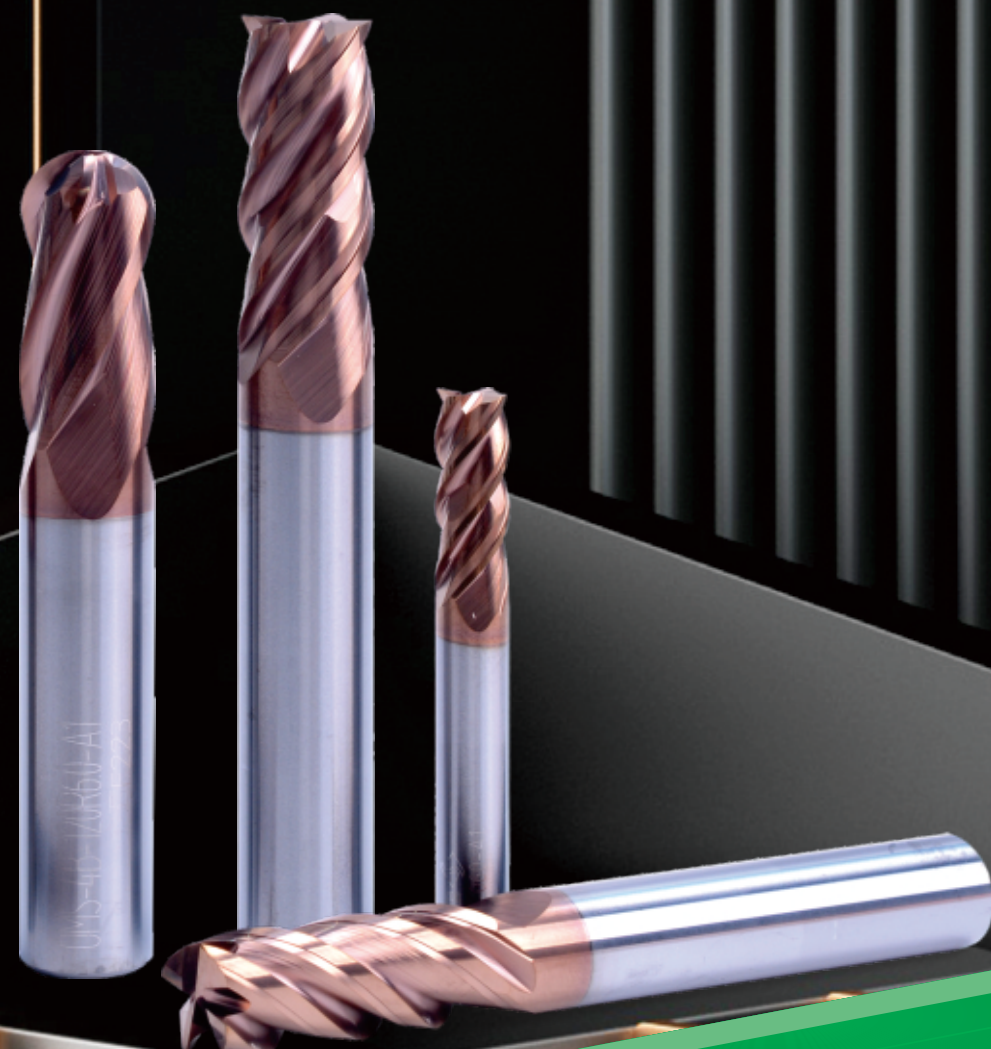
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMHH-2B/2BH/G Cutting Parameters												
Workpiece Material	Pre-hardened steel Hardened steel 40-50HRC				Hardened steel 50-60HRC				Hardened steel 60-68HRC			
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)	Ae (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Ap (mm)
R1.5		29000	6560	0.03	0.1	23000	4560	0.03	0.1	21000	4240	0.03
R2.0		22000	6250	0.04	0.15	17000	4000	0.04	0.15	15500	3520	0.04
R2.5		17500	5600	0.05	0.15	13500	3520	0.05	0.15	13000	3200	0.05
R3.0		15000	4200	0.06	0.2	11500	3000	0.06	0.2	10500	2500	0.06
R4.0		11000	3500	0.08	0.25	8600	2500	0.08	0.25	8000	2250	0.08
R5.0		9000	3000	0.1	0.3	7000	2200	0.1	0.3	6000	2000	0.1
R6.0		7500	3000	0.1	0.35	5700	2000	0.1	0.35	5300	1900	0.1
R8.0		5500	3000	0.1	0.4	4300	2000	0.1	0.4	4000	1900	0.1
R10.0		4500	3000	0.1	0.5	3500	2000	0.1	0.5	3200	1900	0.1
Max Cutting Depth												



- Please select high-precision machine and tool holder.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed rate stated above correspondingly.
- Please use air cooling or MQL (minimum oil mist cooling)
- If inclination angle α over 15 °, please reduce the speed to 50%-80% of above table.
- Make overhang of tool as short as possible in conditions of non-interference.

OMS SERIES FOR HIGH TEMPERATURE ALLOY



OMS

Product series

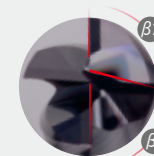
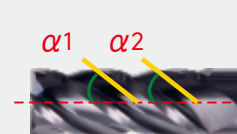
OKE 欧科亿

Product series

OMS

Series For High Temperature Alloy

Variable core thickness groove design, suitable for workpiece of weak rigidity or thin-wall processing


 $\beta_1 \neq \beta_2$

 $\alpha_1 \neq \alpha_2$

Unique cutting edge design ensures high rigidity and excellent vibration resistance



The arc design of the center edge of the ball head blade extends the

Application Cases

Machined parts	Workpiece material	Tool to use	Processing machine	Cooling method
Blades	GH4133B	D12R6 four-blade ball head	Baoji three-axis vertical adding machine without turntable part	Water cooling

Machining parameters

Blade root	S=1320 F=318 AP=15-20mm AE=1mm	Blade face	S=1320 F=520 AP=15-20mm AE=1mm
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Reach the customer's current tool life

6-7 piece for per side for D12R6

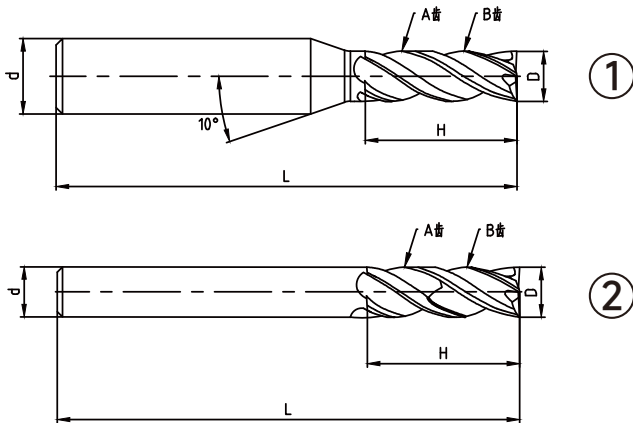


OMS-4E01

4-Flute Straight Shank
Flat End Mills

◎ Suitable for side processing, step processing, and right-angle groove processing.

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMS-4E-020S	2	4	6	50	4	①	●
OMS-4E-040S	4	4	11	50	4	②	●
OMS-4E-060	6	6	16	50	4	②	●
OMS-4E-080	8	8	24	60	4	②	●
OMS-4E-100	10	10	25	75	4	②	●
OMS-4E-120	12	12	30	75	4	②	●
OMS-4E-140	14	14	35	90	4	②	●
OMS-4E-160	16	16	35	90	4	②	●
OMS-4E-200	20	20	45	100	4	②	●
OMS-4E-250	25	25	50	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

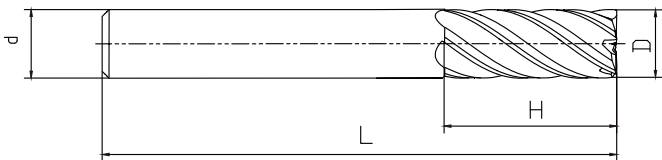
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-5E02

5-Flute Straight Shank
Flat End Mills

◎ Suitable for side processing, step processing, and right-angle groove processing.

Diameter Tolerance: D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	STOCK
	D	d	H	L		
OMS-5E-080	8	8	20	60	5	●
OMS-5E-100	10	10	25	75	5	●
OMS-5E-120	12	12	30	75	5	▲
OMS-5E-140	14	14	35	90	5	▲
OMS-5E-160	16	16	35	90	5	▲
OMS-5E-200	20	20	45	100	5	▲
OMS-5E-250	25	25	50	110	5	▲

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

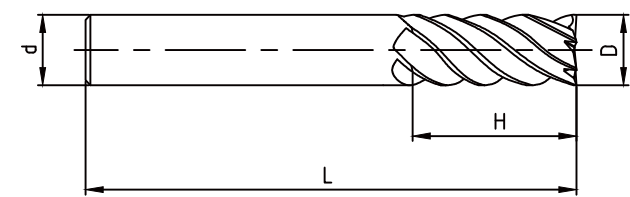
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-6E

03

6-Flute Straight Shank

Flat End Mills



● Suitable for side processing, step processing, and right-angle groove processing.

Diameter Tolerance: D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	STOCK
	D	d	H	L		
OMS-6E-100	10	10	25	75	6	●
OMS-6E-120	12	12	30	75	6	●
OMS-6E-140	14	14	35	90	6	●
OMS-6E-160	16	16	35	90	6	●
OMS-6E-200	20	20	45	100	6	●
OMS-6E-250	25	25	50	110	6	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

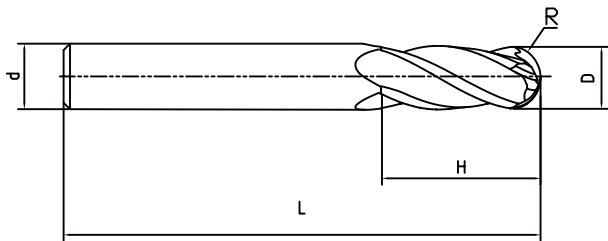
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-4B

04

4-Flute Straight Shank

Ball Nose End Mills



● Suitable for side processing, step processing, and right-angle groove processing.

Diameter Tolerance: D1~D20_{-0.02}⁰
R±0.005



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMS-4B-060R3.0	6	3	6	9	50	4	①	●
OMS-4B-080R4.0	8	4	8	12	60	4	①	●
OMS-4B-100R5.0	10	5	10	15	75	4	①	●
OMS-4B-120R6.0	12	6	12	18	75	4	①	●
OMS-4B-160R8.0	16	8	16	24	85	4	①	●
OMS-4B-200R10.0	20	10	20	30	100	4	①	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

Hardness unit: HRC ◎ Very suitable ○ Suitable

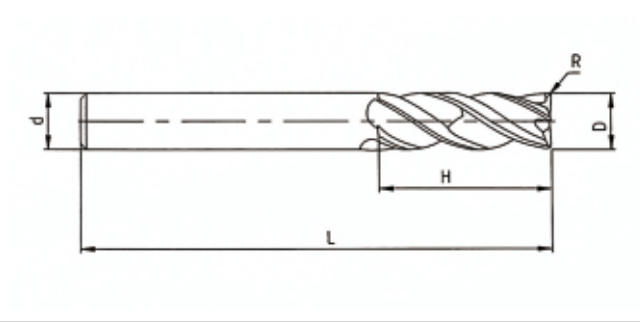
OMS-4R

05

4-Flute Straight Shank

Corner Radius End Mills

- Suitable for R-shaped processing, profiling processing, and R-groove processing



Diameter Tolerance: D1~D20_{-0.02}⁰

R±0.01

SHANK h6

AlCrSiN

41°/43° Helix

4

Ballnose

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-4R-060R0.2	6	0.2	6	16	50	4	●
OMS-4R-060R0.3	6	0.3	6	16	50	4	●
OMS-4R-060R0.5	6	0.5	6	16	50	4	●
OMS-4R-060R0.75	6	0.75	6	16	50	4	●
OMS-4R-060R0.8	6	0.8	6	16	50	4	●
OMS-4R-060R1.0	6	1.0	6	16	50	4	●
OMS-4R-080R0.2	8	0.2	8	20	60	4	●
OMS-4R-080R0.3	8	0.3	8	20	60	4	●
OMS-4R-080R0.5	8	0.5	8	20	60	4	●
OMS-4R-080R0.6	8	0.6	8	20	60	4	●
OMS-4R-080R0.75	8	0.75	8	20	60	4	●
OMS-4R-080R1.0	8	1.0	8	20	60	4	●
OMS-4R-080R2.0	8	2.0	8	20	60	4	●
OMS-4R-100R0.2	10	0.2	10	25	75	4	●
OMS-4R-100R0.3	10	0.3	10	25	75	4	●
OMS-4R-100R0.5	10	0.5	10	25	75	4	●
OMS-4R-100R0.75	10	0.75	10	25	75	4	●
OMS-4R-100R1.0	10	1.0	10	25	75	4	●
OMS-4R-100R1.5	10	1.5	10	25	75	4	●
OMS-4R-100R2.0	10	2.0	10	25	75	4	●
OMS-4R-120R0.2	12	0.2	12	30	75	4	●
OMS-4R-120R0.3	12	0.3	12	30	75	4	●
OMS-4R-120R0.5	12	0.5	12	30	75	4	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-4R-120R0.75	12	0.75	12	30	75	4	●
OMS-4R-120R1.0	12	1.0	12	30	75	4	●
OMS-4R-120R1.5	12	1.5	12	30	75	4	●
OMS-4R-120R2.0	12	2.0	12	30	75	4	●
OMS-4R-120R2.5	12	2.5	12	30	75	4	●
OMS-4R-120R3.0	12	3.0	12	30	75	4	●
OMS-4R-140R0.2	14	0.2	14	35	90	4	●
OMS-4R-140R0.3	14	0.3	14	35	90	4	●
OMS-4R-140R0.5	14	0.5	14	35	90	4	●
OMS-4R-140R0.75	14	0.75	14	35	90	4	●
OMS-4R-140R1.0	14	1.0	14	35	90	4	●
OMS-4R-140R1.5	14	1.5	14	35	90	4	●
OMS-4R-140R2.0	14	2.0	14	35	90	4	●
OMS-4R-140R2.5	14	2.5	14	35	90	4	●
OMS-4R-140R3.0	14	3.0	14	35	90	4	●
OMS-4R-160R0.2	16	0.2	16	35	90	4	●
OMS-4R-160R0.3	16	0.3	16	35	90	4	●
OMS-4R-160R0.5	16	0.5	16	35	90	4	●
OMS-4R-160R0.75	16	0.75	16	35	90	4	●
OMS-4R-160R1.0	16	1.0	16	35	90	4	●
OMS-4R-160R1.5	16	1.5	16	35	90	4	●
OMS-4R-160R2.0	16	2.0	16	35	90	4	●
OMS-4R-160R2.5	16	2.5	16	35	90	4	●
OMS-4R-160R3.0	16	3.0	16	35	90	4	●
OMS-4R-160R4.0	16	4.0	16	35	90	4	●

● Stock available

▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

Hardness unit: HRC

◎ Very suitable

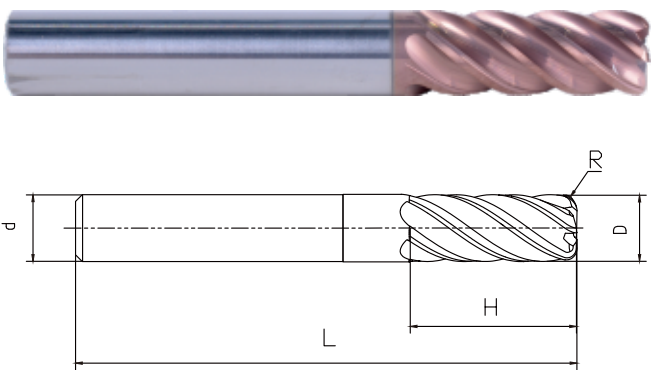
○ Suitable

OMS-5R

06

5-Flute Straight Shank
Corner Radius End Mills

- Suitable for R-shaped processing, profiling processing, and R-groove processing



Diameter Tolerance: D1~ D20_{-0.02}⁰

R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-5R-060R0.2	6	0.2	6	16	50	5	●
OMS-5R-060R0.3	6	0.3	6	16	50	5	●
OMS-5R-060R0.5	6	0.5	6	16	50	5	●
OMS-5R-060R0.75	6	0.75	6	16	50	5	●
OMS-5R-060R1.0	6	1.0	6	16	50	5	●
OMS-5R-080R0.2	8	0.2	8	20	60	5	●
OMS-5R-080R0.3	8	0.3	8	20	60	5	●
OMS-5R-080R0.5	8	0.5	8	20	60	5	●
OMS-5R-080R0.75	8	0.75	8	20	60	5	●
OMS-5R-080R1.0	8	1.0	8	20	60	5	●
OMS-5R-080R2.0	8	2.0	8	20	60	5	●
OMS-5R-100R0.2	10	0.2	10	25	75	5	●
OMS-5R-100R0.3	10	0.3	10	25	75	5	●
OMS-5R-100R0.5	10	0.5	10	25	75	5	●
OMS-5R-100R0.75	10	0.75	10	25	75	5	●
OMS-5R-100R1.0	10	1.0	10	25	75	5	●
OMS-5R-100R1.5	10	1.5	10	25	75	5	●
OMS-5R-100R2.0	10	2.0	10	25	75	5	●
OMS-5R-120R0.2	12	0.2	12	30	75	5	●
OMS-5R-120R0.3	12	0.3	12	30	75	5	●
OMS-5R-120R0.5	12	0.5	12	30	75	5	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-5R-120R0.75	12	0.75	12	30	75	5	●
OMS-5R-120R1.0	12	1.0	12	30	75	5	●
OMS-5R-120R1.5	12	1.5	12	30	75	5	●
OMS-5R-120R2.0	12	2.0	12	30	75	5	●
OMS-5R-120R2.5	12	2.5	12	30	75	5	●
OMS-5R-120R3.0	12	3.0	12	30	75	5	●
OMS-5R-140R0.2	14	0.2	14	35	90	5	●
OMS-5R-140R0.3	14	0.3	14	35	90	5	●
OMS-5R-140R0.5	14	0.5	14	35	90	5	●
OMS-5R-140R0.75	14	0.75	14	35	90	5	●
OMS-5R-140R1.0	14	1.0	14	35	90	5	●
OMS-5R-140R1.5	14	1.5	14	35	90	5	●
OMS-5R-140R2.0	14	2.0	14	35	90	5	●
OMS-5R-140R2.5	14	2.5	14	35	90	5	●
OMS-5R-140R3.0	14	3.0	14	35	90	5	●
OMS-5R-160R0.2	16	0.2	16	35	90	5	●
OMS-5R-160R0.3	16	0.3	16	35	90	5	●
OMS-5R-160R0.5	16	0.5	16	35	90	5	●
OMS-5R-160R0.75	16	0.75	16	35	90	5	●
OMS-5R-160R1.0	16	1.0	16	35	90	5	●
OMS-5R-160R1.5	16	1.5	16	35	90	5	●
OMS-5R-160R2.0	16	2.0	16	35	90	5	●
OMS-5R-160R2.5	16	2.5	16	35	90	5	●
OMS-5R-160R3.0	16	3.0	16	35	90	5	●
OMS-5R-160R4.0	16	4.0	16	35	90	5	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

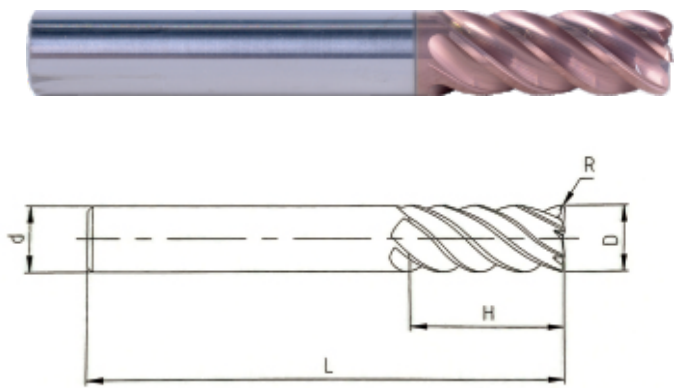
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-6R

07

6-Flute Straight Shank
Corner Radius End Mills

- Suitable for R-shaped processing, profiling processing, and R-groove processing



Diameter Tolerance: D1~ D20⁰_{-0.02}

R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-6R-100R1.0	10	1.0	10	25	75	6	●
OMS-6R-100R2.0	10	2.0	10	25	75	6	●
OMS-6R-120R1.0	12	1.0	12	30	75	6	●
OMS-6R-120R2.0	12	2.0	12	30	75	6	●
OMS-6R-120R3.0	12	3.0	12	30	75	6	●
OMS-6R-140R1.0	14	1.0	14	35	90	6	●
OMS-6R-140R2.0	14	2.0	14	35	90	6	●
OMS-6R-140R3.0	14	3.0	14	35	90	6	●
OMS-6R-160R1.0	16	1.0	16	35	90	6	●
OMS-6R-160R2.5	16	2.5	16	35	90	6	●
OMS-6R-160R4.0	16	4.0	16	35	90	6	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

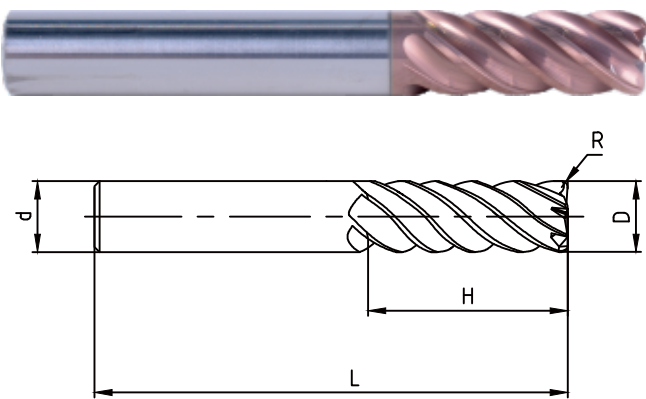
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-7R

08

7-Flute Straight Shank
Corner Radius End Mills

- Suitable for R-shaped processing, profiling processing, and R-groove processing



Diameter Tolerance: D1~ D20⁰_{-0.02}

R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE Z	STOCK
	D	R	d	H	L		
OMS-7R-100R0.2	10	0.2	10	25	75	7	●
OMS-7R-100R0.3	10	0.3	10	25	75	7	●
OMS-7R-100R0.5	10	0.5	10	25	75	7	●
OMS-7R-100R0.75	10	0.75	10	25	75	7	●
OMS-7R-100R1.0	10	1.0	10	25	75	7	●
OMS-7R-100R1.5	10	1.5	10	25	75	7	●
OMS-7R-100R2.0	10	2.0	10	25	75	7	●
OMS-7R-120R0.2	12	0.2	12	30	75	7	●
OMS-7R-120R0.3	12	0.3	12	30	75	7	●
OMS-7R-120R0.5	12	0.5	12	30	75	7	●
OMS-7R-120R0.75	12	0.75	12	30	75	7	●
OMS-7R-120R1.0	12	1.0	12	30	75	7	●
OMS-7R-120R1.5	12	1.5	12	30	75	7	●
OMS-7R-120R2.0	12	2.0	12	30	75	7	●
OMS-7R-120R2.5	12	2.5	12	30	75	7	●
OMS-7R-120R3.0	12	3.0	12	30	75	7	●
OMS-7R-140R0.2	14	0.2	14	35	90	7	●
OMS-7R-140R0.3	14	0.3	14	35	90	7	●
OMS-7R-140R0.5	14	0.5	14	35	90	7	●
OMS-7R-140R0.75	14	0.75	14	35	90	7	●

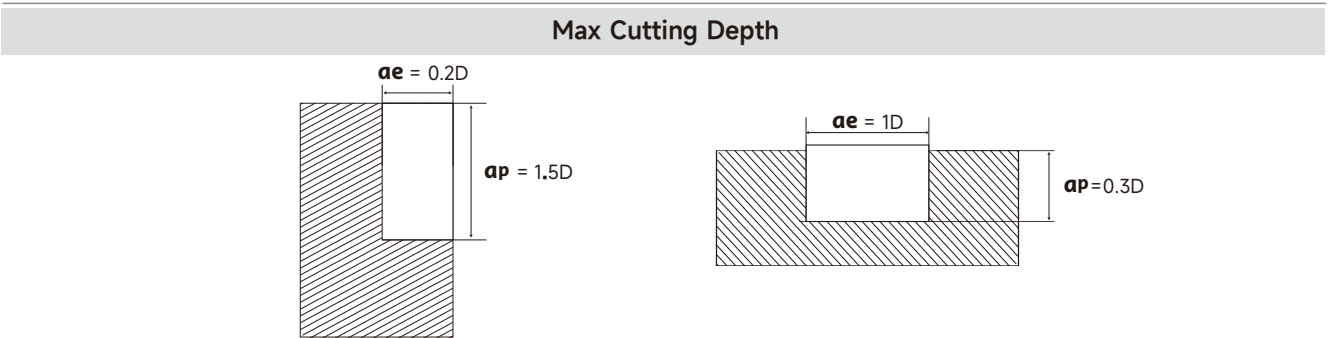
TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	STOCK
	D	R	d	H	L		
OMS-7R-140R1.0	14	1.0	14	35	90	7	●
OMS-7R-140R1.5	14	1.5	14	35	90	7	●
OMS-7R-140R2.0	14	2.0	14	35	90	7	●
OMS-7R-140R2.5	14	2.5	14	35	90	7	●
OMS-7R-140R3.0	14	3.0	14	35	90	7	●
OMS-7R-160R0.2	16	0.2	16	35	90	7	●
OMS-7R-160R0.3	16	0.3	16	35	90	7	●
OMS-7R-160R0.5	16	0.5	16	35	90	7	●
OMS-7R-160R0.75	16	0.75	16	35	90	7	●
OMS-7R-160R1.0	16	1.0	16	35	90	7	●
OMS-7R-160R1.5	16	1.5	16	35	90	7	●
OMS-7R-160R2.0	16	2.0	16	35	90	7	●
OMS-7R-160R2.5	16	2.5	16	35	90	7	●
OMS-7R-160R3.0	16	3.0	16	35	90	7	●
OMS-7R-160R4.0	16	4.0	16	35	90	7	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
○	○					○				○	◎

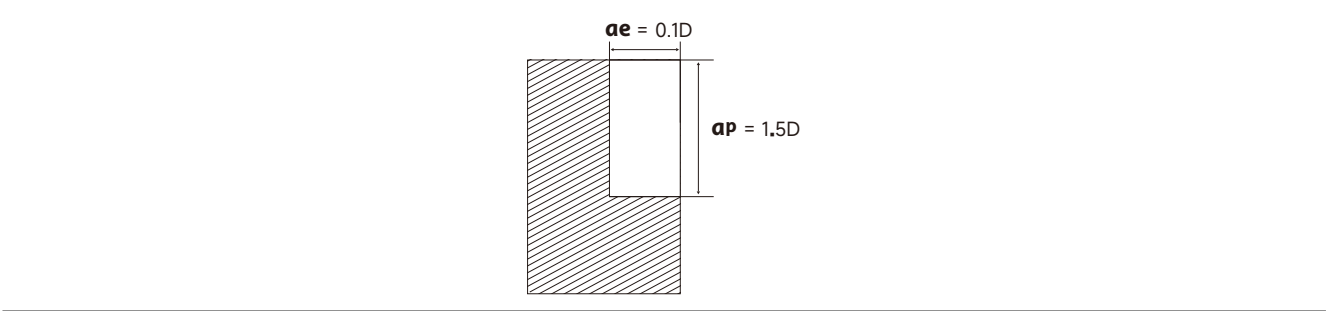
Hardness unit: HRC ◎ Very suitable ○ Suitable

OMS-4E/-5E/-4R/-5R Cutting Parameters		
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
6	1592	0.012-0.025
8	1195	0.013-0.029
10	955	0.016-0.035
12	796	0.016-0.038
14	682	0.018-0.041
16	597	0.018-0.045
20	478	0.018-0.049
25	1592	0.019-0.051



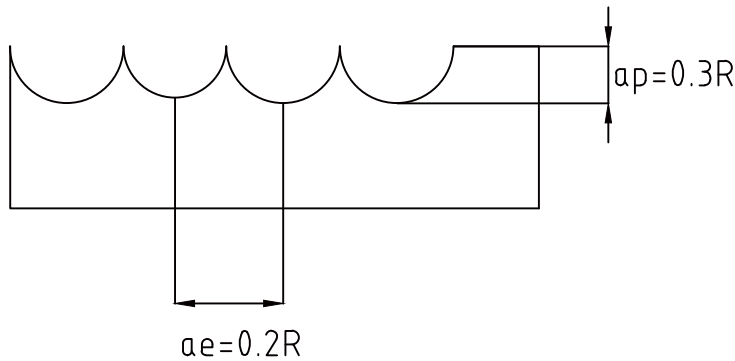
- ◎ The above table is the standard value for side milling. For grooving, the rotating speed should be 80%-100% of the above table, and the feed speed should be 60%-80% of the above table as the standard value
- ◎ Please use high-rigidity, high-precision machine tools and tool holders, and it is recommended to use non-water-soluble cutting fluid
- ◎ Adjust the Rotating speed and Feed speed according to the cutting depth and machine tool rigidity, and down milling is recommended
- ◎ Keep the tool overhang length as short as possible without interference

OMS-6E/-6R/-7R Cutting Parameters		
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
10	955	0.015-0.035
12	796	0.016-0.038
14	682	0.018-0.041
16	597	0.012-0.025
20	478	0.018-0.049
25	382	0.019-0.051

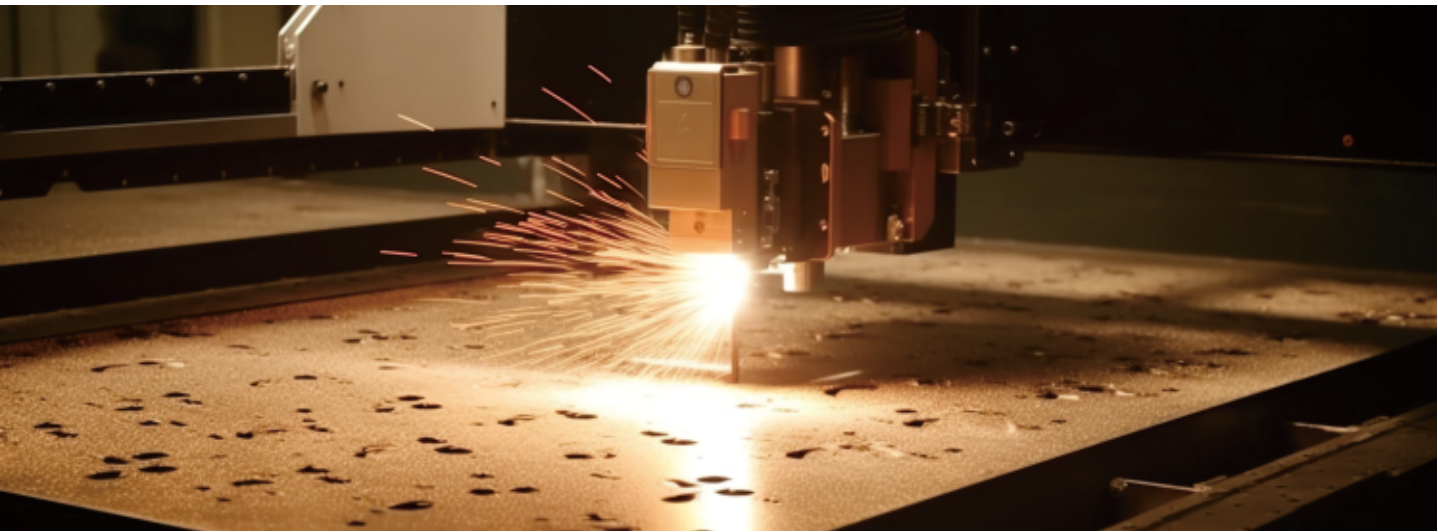


- ◎ The above table is the standard value for side milling. For cutting grooving, please use a 4-flute or 5-flute end mills
- ◎ Please use high-rigidity, high-precision machine tools and tool holders, and it is recommended to use non-water-soluble cutting fluid
- ◎ Adjust the Rotating speed and Feed speed according to the cutting depth and machine tool rigidity, and down milling is recommended
- ◎ Keep the tool overhang length as short as possible without interference

OMS-4B Cutting Parameters		
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
6	1858	0.02-0.05
8	1393	0.025-0.07
10	1115	0.03-0.08
12	928	0.032-0.085
14	696	0.04-0.12
16	557	0.041-0.13
Max Cutting Depth		



- ③ The above table is the standard value for side milling. For grooving, the rotating speed should be 80%-100% of the above table, and the feed speed should be 60%-80% of the above table as the standard value
- ③ Please use high-rigidity, high-precision machine tools and tool holders, and it is recommended to use non-water-soluble cutting fluid
- ③ Adjust the Rotating speed and Feed speed according to the cutting depth and machine tool rigidity, and down milling is recommended
- ③ Keep the tool overhang length as short as possible without interference



OMM

SERIES FOR STAINLESS STEEL MACHINING



OKE 欧科亿



OMM Product series



Product series

OMM

Series For
Stainless Steel
Machining

- ① The design of unequal spirals and unequal teeth can achieve stable and efficient processing, with a good processing surface and no vibration lines
- ② The spiral groove adopts a U-shaped groove structure design to increase the chip holding space and facilitate chip discharge
- ③ The peripheral edge flank surface has high grinding quality, which avoids adhesive wear and improves the surface quality of the workpiece and tool life.

End structure

① Unequal tooth structure to increase vibration resistance

② Double GASH structure ensures rigidity while increasing chip space

The peripheral edge flank surface has higher grinding quality

U-shaped groove structure design to increase the chip holding space

Profiled groove structure

Standard groove structure

OMM-4E-100

Other brand in China

TOOL	OMM-4E-100 Other brand in China
WORKPIECE MATERIAL	SUS304
MILLING METHOD	Side Milling
CUTTING SPEED	130m/min (S4100)
FEED SPEED	1230mm/min (0.3mm/rev)
DEPTH OF CUT	26mm
CUTTING WIDTH	0.2mm
CUTTING OIL	Water Soluble Cutting Oil
MACHINE	Vertical Machining Centre

Vibration

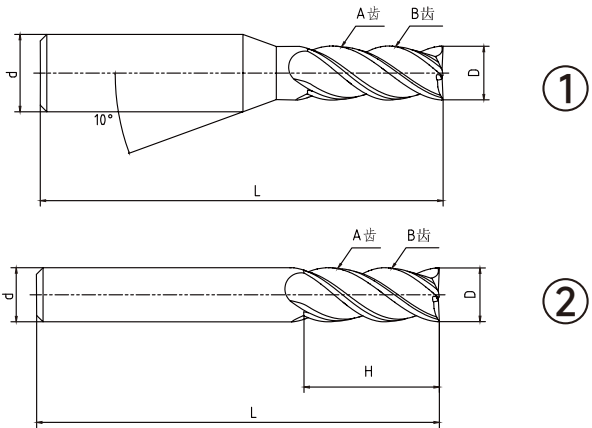
01

OMM-4E

4-Flute Straight Shank
Flat End Mills

- ③ Most suitable for side milling and shallow groove processing
- ③ Wide range of applications

Diameter Tolerance:
D1~D6_{-0.02}⁰ / D7~D20_{-0.025}⁰



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	Z		
OMM-4E-020S	2.0	4	6	50	4	①	●
OMM-4E-030S	3.0	4	9	50	4	①	●
OMM-4E-040S	4.0	4	11	50	4	②	●
OMM-4E-040	4.0	6	11	50	4	①	●
OMM-4E-050	5.0	6	13	50	4	①	●
OMM-4E-060	6.0	6	16	50	4	②	●
OMM-4E-080	8.0	8	20	60	4	②	●
OMM-4E-100	10.0	10	25	75	4	②	●
OMM-4E-120	12.0	12	26	75	4	②	●
OMM-4E-160	16.0	16	40	100	4	②	●
OMM-4E-200	20.0	20	40	100	4	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
◎	◎	◎	◎			◎	○			◎	○

Hardness unit: HRC ◎ Very suitable ○ Suitable

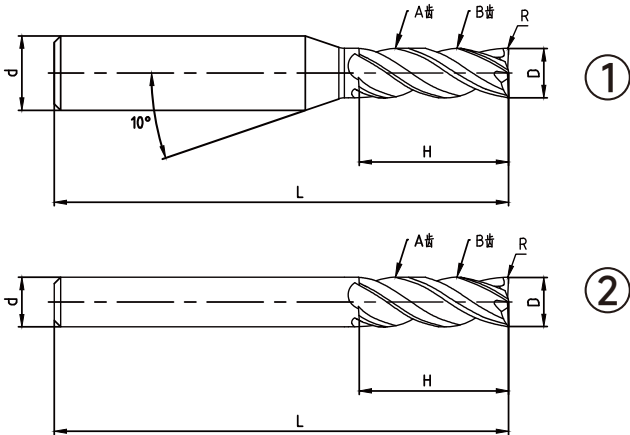
0MM-4R

02

4-Flute Straight Shank
Corner Radius End Mills

Wide application range,A variety of shapes can be processed

Diameter Tolerance:
D1~D6_{-0.02} / D7~D20_{-0.025} R±0.01



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMM-4R-020R0.2S	2.0	0.2	4	6	50	4	①	●
OMM-4R-030R0.5S	3.0	0.5	4	8	50	4	①	●
OMM-4R-040R0.5S	4.0	0.5	4	11	50	4	②	●
OMM-4R-040R0.5	4.0	0.5	6	11	50	4	①	●
OMM-4R-050R0.5	5.0	0.5	6	13	50	4	①	●
OMM-4R-060R0.5	6.0	0.5	6	16	50	4	②	●
OMM-4R-060R1.0	6.0	1.0	6	16	50	4	②	●
OMM-4R-080R0.5	8.0	0.5	8	20	60	4	②	●
OMM-4R-080R1.0	8.0	1.0	8	20	60	4	②	●
OMM-4R-100R0.5	10.0	0.5	10	25	75	4	②	●
OMM-4R-100R1.0	10.0	1.0	10	25	75	4	②	●
OMM-4R-100R2.0	10.0	2.0	10	25	75	4	②	●
OMM-4R-120R0.5	12.0	0.5	12	26	75	4	②	●
OMM-4R-120R1.0	12.0	1.0	12	26	75	4	②	●
OMM-4R-120R2.0	12.0	2.0	12	26	75	4	②	●
OMM-4R-120R3.0	12.0	3.0	12	26	75	4	②	●
OMM-4R-160R0.5	16.0	0.5	16	40	100	4	②	▲
OMM-4R-160R1.0	16.0	1.0	16	40	100	4	②	●
OMM-4R-160R1.5	16.0	1.5	16	40	100	4	②	▲
OMM-4R-160R2.0	16.0	2.0	16	40	100	4	②	●
OMM-4R-160R3.0	16.0	3.0	16	40	100	4	②	▲

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMM-4R-200R0.5	20.0	0.5	20	40	100	4	②	▲
OMM-4R-200R1.0	20.0	1.0	20	40	100	4	②	▲
OMM-4R-200R2.0	20.0	2.0	20	40	100	4	②	●
OMM-4R-200R3.0	20.0	3.0	20	40	100	4	②	▲

● Stock available ▲ Make-to-order

OMM-4E/4R recommend cutting parameters (General machining)										
Workpiece Material	Castiron·Carbon Alloy steel ~30HRC		Stainless steel		Pre-hardened steel hardened and tempered steell ~40HRC		Pre-hardened steel hardened and tempered steell ~50HRC		Titanium alloy Heat temperature alloy	
	Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)
	2	40000	960	22300	350	32000	385	25000	330	9600
	4	15500	1150	7400	350	10600	545	8500	335	4800
	5	15500	1150	5550	445	8000	665	6500	450	3800
	6	9500	1270	4450	445	6400	665	5000	455	3200
	8	8000	1270	4450	445	6400	665	5000	455	4455
	10	6000	1575	2750	500	4000	850	3200	535	1910
	12	4800	1455	2200	520	3200	785	2500	535	1600
	16	4000	1330	1850	520	2650	740	2100	505	1200
	20	3000	1270	1350	535	2000	725	1600	455	960

- Please use machine tools and tool holders with higher rigidity.
- Please adjust the Rotating speed and Feed speed appropriately according to the cutting speed, equipment rigidity, etc
- The above table is formulated based on the tool overhang length being less than 4 times the diameter. If the tool overhang length is too long, vibration is likely to occur during processing. At this time, please adjust the Rotating speed, Feed speed and depth of cut appropriately.



OMAL

SERIES FOR ALUMINUM MACHINING



OMAL

Product series

OKE 欧科亿

Product series

OMAL

Series For Aluminum Machining



Sharp cutting edge and edge treatment technology effectively prevent the occurrence of built-up edge

The unique chip groove shape also shows excellent performance in groove and cavity processing.

The design of ultra-fine grains and the base material with uniform structure make it easier for the tool to achieve excellent edge grinding and processing effects.

Application Cases

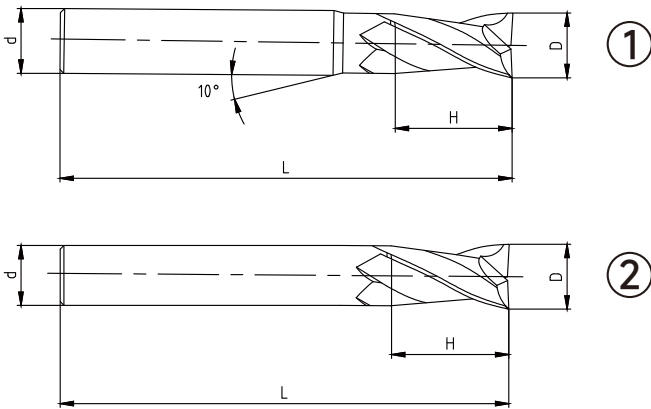


OMAL series for aluminum machining have been widely used in the automotive industry

TYPE	ME2AL-D7X23X65X8
MACHINED PARTS	Car Luggage Rack
ROTATING SPEED	10000r/min
FEED SPEED	1500mm/min
CUTTING DEPTH	Ap=10mm
CUTTING WIDTH	Ae=1mm
CUTTING METHOD	Side Milling
COOLING METHOD	Air Cooling

OMAL-2E01

2-Flute Straight Shank
Flat End Mill



- Best suited for groove milling
- Wide application range



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-2E-010S	1.0	4	3	50	2	①	●
OMAL-2E-015S	1.5	4	4	50	2	①	●
OMAL-2E-020S	2.0	4	6	50	2	①	●
OMAL-2E-025S	2.5	4	8	50	2	①	●
OMAL-2E-030S	3.0	4	9	50	2	①	●
OMAL-2E-035S	3.5	4	10	50	2	①	●
OMAL-2E-040S	4.0	4	10	50	2	②	●
OMAL-2E-045	4.5	6	11	50	2	①	●
OMAL-2E-050	5.0	6	13	50	2	①	●
OMAL-2E-055	5.5	6	14	50	2	①	●
OMAL-2E-060	6.0	6	16	50	2	②	●
OMAL-2E-070	7.0	8	18	60	2	②	●
OMAL-2E-080	8.0	8	20	60	2	②	●
OMAL-2E-090	9.0	10	23	75	2	②	●
OMAL-2E-100	10.0	10	25	75	2	②	●
OMAL-2E-120	12.0	12	30	75	2	②	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-2E-140	14.0	14	32	75	2	②	●
OMAL-2E-160	16.0	16	36	100	2	②	●
OMAL-2E-180	18.0	18	38	100	2	②	●
OMAL-2E-200	20.0	20	45	100	2	②	●

● Stock available ▲ Make-to-order

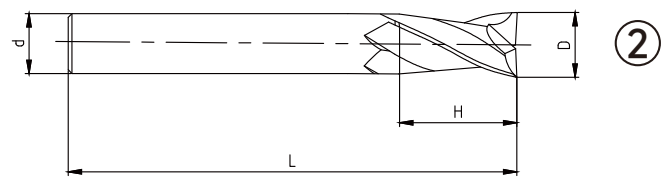
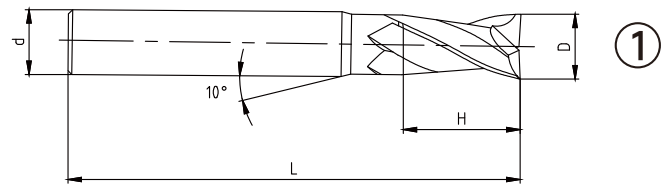
WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
								○	◎		

Hardness unit: HRC ◎ Very suitable ○ Suitable



OMAL-2EL 02

2-Flute Long Cutting Edge Flat End Mills



- Best suited for groove milling
- Wide application range



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	Z		
OMAL-2E-030L	3.0	6	12	75	2	①	●
OMAL-2E-040L	4.0	6	16	75	2	①	●
OMAL-2E-050L	5.0	6	20	75	2	①	●
OMAL-2E-060L	6.0	6	25	75	2	②	●
OMAL-2E-080L	8.0	8	32	75	2	②	●
OMAL-2E-100L	10.0	10	45	100	2	②	●
OMAL-2E-120L	12.0	12	45	100	2	②	●
OMAL-2E-140L	14.0	14	50	100	2	②	●
OMAL-2E-160L	16.0	16	65	150	2	②	●
OMAL-2E-200L	20.0	20	75	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL

Carbon steel	Alloy steel	Pre-hardened steel · Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

○

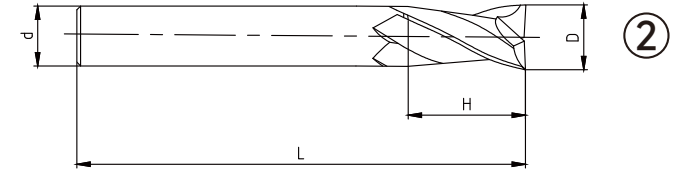
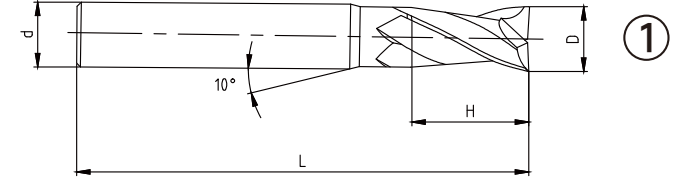
Hardness unit: HRC

© Very suitable

☐ Suitable

OMAL-2EH 03

2-Flute Long Cutting Edge Flat End Mills



- Best suited for groove milling
- Wide application range



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-2E-030H	3.0	6	9	75	2	①	●
OMAL-2E-040H	4.0	6	10	75	2	①	●
OMAL-2E-050H	5.0	6	13	75	2	①	●
OMAL-2E-060H	6.0	6	16	75	2	②	●
OMAL-2E-080H	8.0	8	20	75	2	②	●
OMAL-2E-100H	10.0	10	25	100	2	②	●
OMAL-2E-120H	12.0	12	30	100	2	②	●
OMAL-2E-140H	14.0	14	32	100	2	②	●
OMAL-2E-160H	16.0	16	36	150	2	②	●
OMAL-2E-200H	20.0	20	45	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL

Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

C

©

Hardness unit: HRC

© **Very suitable**

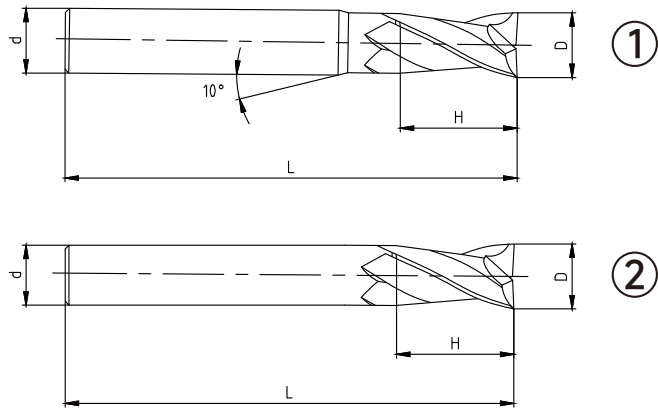
☐ Suitable

OMAL-2EG

04

2-Flute Extra Long Shank
Flat End Mills

- Best suited for groove milling
- Wide application range



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-2E-060G	6.0	6	16	100	2	②	●
OMAL-2E-080G	8.0	8	20	100	2	②	●
OMAL-2E-100G	10.0	10	25	150	2	②	●
OMAL-2E-120G	12.0	12	30	150	2	②	●
OMAL-2E-140G	14.0	14	32	150	2	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL									
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy
		~40	~50	~55	~68				

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMAL-2E/2EL/H/G Cutting parameters				
Workpiece Material	Aluminum alloy		Silicon aluminum alloy Si=10%	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
1	40000	650	40000	500
2	40000	950	40000	750
3	26500	1250	21000	1000
4	20000	1400	16000	1100
5	16000	1500	13000	1100
6	13000	1500	10600	1100
8	10000	1600	8000	1250
10	8000	1600	6500	1250
12	6600	1650	5300	1300
14	5700	1700	4600	1350
16	5000	1700	40000	1350
18	4400	1700	3500	1350
20	4000	1700	3200	1350

Max Cutting Depth

$ae = 0.1D$

$ap = 1.5D$

Max $ae = 1.0mm$

$ae = 1D$

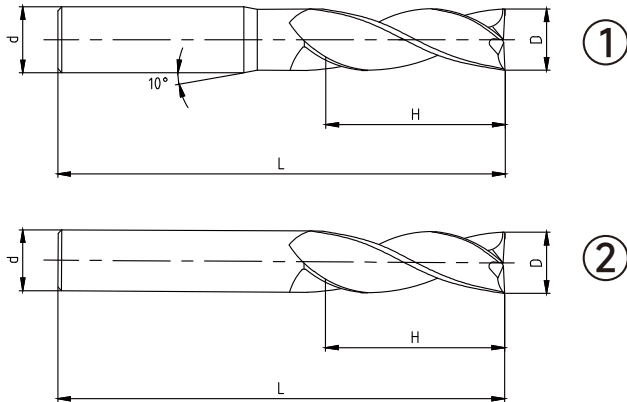
$ap = 0.5D$

- The above table is based on the baseline values for side milling. The cutting conditions for slot milling are based on 70% of the feed speed in the table above.
- Please use machine tools and tool holders with high rigidity and precision. When the machine tool and workpiece are installed with poor rigidity, vibration and abnormal sounds will occur. At this time, the rotating speed and feed recommended in the above table should be reduced .
- When the cutting depth is small, the Rotating speed and Feed speed can be increased.
- Please use water-soluble cutting fluid. Down milling is recommended for side milling.
- Keep the overhang length of the tool as short as possible without interference.

OMAL-3E05

3-flute Straight Shank
Flat End Mills

Excellent vibration resistance, can realize various processing of slot milling, side milling, drilling and milling



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-3E-010S	1.0	4	3	50	3	①	●
OMAL-3E-015S	1.5	4	4	50	3	①	●
OMAL-3E-020S	2.0	4	6	50	3	①	●
OMAL-3E-025S	2.5	4	8	50	3	①	●
OMAL-3E-030S	3.0	4	9	50	3	①	●
OMAL-3E-030F	3.0	3	9	50	3	②	●
OMAL-3E-035S	3.5	4	10	50	3	①	●
OMAL-3E-040S	4.0	4	10	50	3	②	●
OMAL-3E-045	4.5	6	11	50	3	①	●
OMAL-3E-050	5.0	6	13	50	3	①	●
OMAL-3E-055	5.5	6	14	50	3	①	●
OMAL-3E-060	6.0	6	16	50	3	②	●
OMAL-3E-070	7.0	8	18	60	3	①	●
OMAL-3E-080	8.0	8	20	60	3	②	●
OMAL-3E-090	9.0	10	23	75	3	②	●
OMAL-3E-100	10.0	10	25	75	3	②	●

TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-3E-120	12.0	12	30	75	3	②	●
OMAL-3E-140	14.0	14	32	75	3	②	●
OMAL-3E-160	16.0	16	36	100	3	②	●
OMAL-3E-180	18.0	18	38	100	3	②	●
OMAL-3E-200	20.0	20	45	100	3	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						
								○	◎		

Hardness unit: HRC ◎ Very suitable ○ Suitable



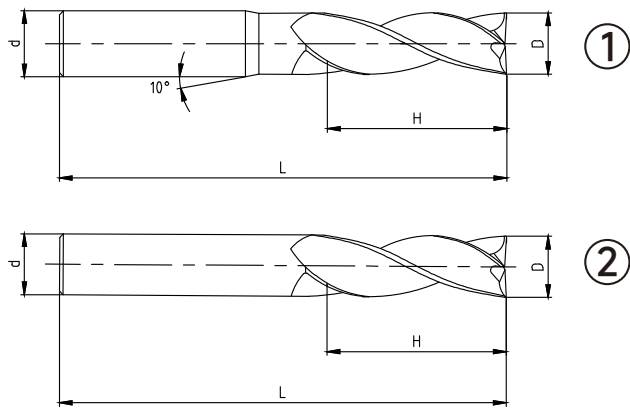
OMAL-3EL

06

3-Flute Long Cutting

Edge Flat End Mills

- Excellent vibration resistance, can realize various processing of slot milling, side milling, drilling and milling



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-3E-030L	3.0	6	12	75	3	①	●
OMAL-3E-040L	4.0	6	15	75	3	①	●
OMAL-3E-050L	5.0	6	20	75	3	①	●
OMAL-3E-060L	6.0	6	25	75	3	②	●
OMAL-3E-080L	8.0	8	32	75	3	②	●
OMAL-3E-100L	10.0	10	45	100	3	②	●
OMAL-3E-120L	12.0	12	45	100	3	②	●
OMAL-3E-140L	14.0	14	50	100	3	②	●
OMAL-3E-160L	16.0	16	65	150	3	②	●
OMAL-3E-200L	20.0	20	75	150	3	②	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel・Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

Hardness unit: HRC ◎ Very suitable ○ Suitable

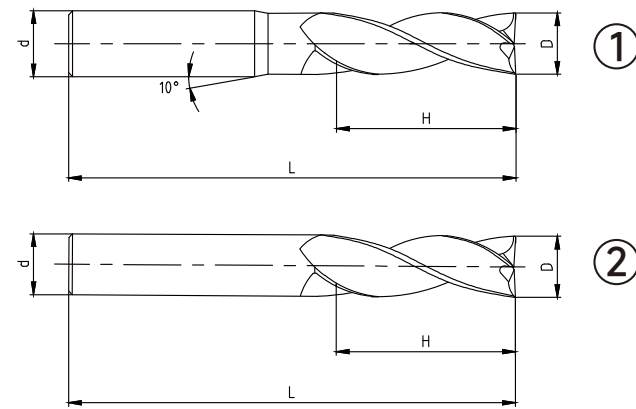
OMAL-3EH

07

3-Flute Long Shank Flat

End Mills

- Excellent vibration resistance, can realize various processing of slot milling, side milling, drilling and milling



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L			
OMAL-3E-030H	3.0	6	9	75	3	①	●
OMAL-3E-030SH	3.0	4	9	75	3	①	●
OMAL-3E-030FH	3.0	3	9	75	3	②	●
OMAL-3E-040H	4.0	6	10	75	3	①	●
OMAL-3E-040SH	4.0	4	10	75	3	②	●
OMAL-3E-050H	5.0	6	13	75	3	①	●
OMAL-3E-060H	6.0	6	16	75	3	②	●
OMAL-3E-080H	8.0	8	20	75	3	②	●
OMAL-3E-100H	10.0	10	25	100	3	②	●
OMAL-3E-120H	12.0	12	30	100	3	②	●
OMAL-3E-140H	14.0	14	32	100	3	②	●
OMAL-3E-160H	16.0	16	36	150	3	②	●
OMAL-3E-200H	20.0	20	45	150	3	②	●

● Stock available ▲ Make-to-order

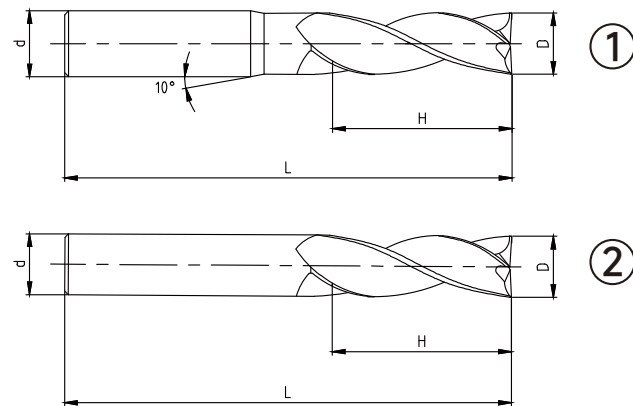
WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

Hardness unit: HRC ◎ Very suitable ○ Suitable

OMAL-3EG

08

3-Flute Extra Long Shank Flat End Mills



- Excellent vibration resistance, can realize various processing of slot milling, side milling, drilling and milling



TYPE	BASIC DIMENSION (mm)				NUMBER OF FLUTE	GEOMETRY	STOCK
	D	d	H	L	Z		
OMAL-3E-060G	6.0	6	16	100	3	㊟	●
OMAL-3E-080G	8.0	8	20	100	3	㊟	●
OMAL-3E-100G	10.0	10	25	150	3	㊟	●
OMAL-3E-120G	12.0	12	30	150	3	㊟	●
OMAL-3E-140G	14.0	14	32	150	3	㊟	●

● Stock available ▲ Make-to-order

WORKPIECE MATERIAL

Carbon steel	Alloy steel	Pre-hardened steel · Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

○

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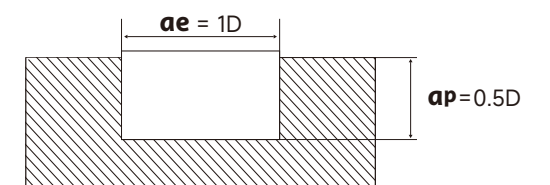
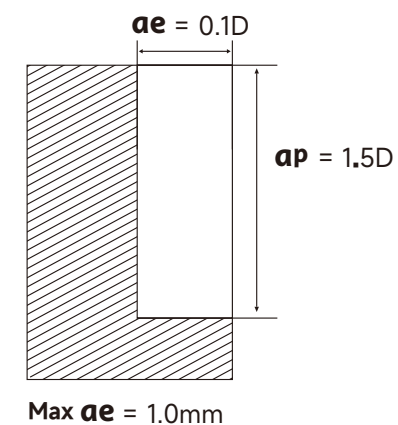
Hardness unit: HRC

© Very suitable

☐ Suitable

OMAL-3E/3EL/H/G Cutting parameters				
Workpiece Material	Aluminum alloy		Silicon aluminum alloy Si=10%	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
1	40000	800	40000	600
2	40000	1200	40000	900
3	26500	1500	21000	1200
4	20000	1650	16000	1300
5	16000	1750	13000	1300
6	13000	1800	10600	1300
8	10000	1900	8000	1500
10	8000	1950	6500	1500
12	6600	2000	5300	1550
14	5700	2000	4600	1600
16	5000	2000	40000	1600
18	4400	2000	3500	1600
20	4000	2000	3200	1600

Max Cutting Depth

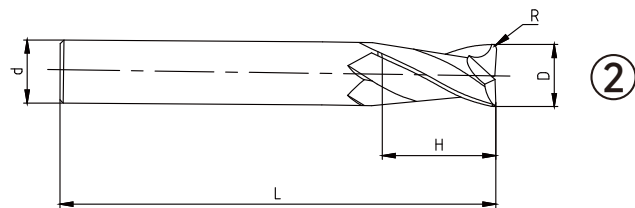
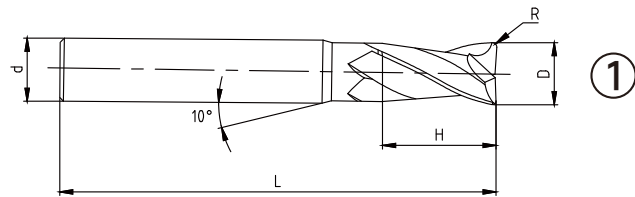
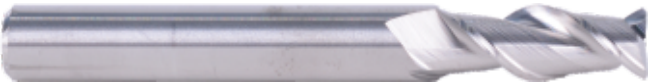


- ③ The above table is based on the baseline values for side milling. The cutting conditions for slot milling are based on 70% of the feed speed in the table above.
- ③ Please use machine tools and tool holders with high rigidity and precision. When the machine tool and workpiece are installed with poor rigidity, vibration and abnormal sounds will occur. At this time, the rotating speed and feed recommended in the above table should be reduced .
- ③ When the cutting depth is small, the Rotating speed and Feed speed can be increased.
- ③ Please use water-soluble cutting fluid.
- ③ Down milling is recommended for side milling.
- ③ Keep the overhang length of the tool as short as possible without interference.

OMAL-2R09

2-Flute Straight Shank
Corner Radius End Mills

Excellent vibration resistance, can realize various processing of slot milling, side milling, drilling and milling



TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMAL-2R-010R0.1S	1	0.1	4	3	50	2	①	●
OMAL-2R-015R0.2S	1.5	0.2	4	4	50	2	①	●
OMAL-2R-020R0.2S	2.0	0.2	4	6	50	2	①	●
OMAL-2R-030R0.3S	3.0	0.3	4	9	50	2	①	●
OMAL-2R-030R0.5S	3.0	0.5	4	9	50	2	①	●
OMAL-2R-040R0.2S	4.0	0.2	4	10	50	2	②	●
OMAL-2R-040R0.5S	4.0	0.5	4	10	50	2	②	●
OMAL-2R-040R1.0S	4.0	1.0	4	10	50	2	②	●
OMAL-2R-050R0.2	5.0	0.2	6	13	50	2	①	●
OMAL-2R-050R0.3	5.0	0.3	6	13	50	2	①	●
OMAL-2R-050R0.5	5.0	0.5	6	13	50	2	①	●
OMAL-2R-050R1.0	5.0	1.0	6	13	50	2	①	●
OMAL-2R-060R0.5	6.0	0.5	6	16	50	2	②	●
OMAL-2R-060R1.0	6.0	1.0	6	16	50	2	②	●
OMAL-2R-060R2.0	6.0	2.0	6	16	50	2	②	●

TYPE	BASIC DIMENSION (MM)					NUMBER OF FLUTE	GEOMETRY	STOCK
	D	R	d	H	L			
OMAL-2R-080R0.5	8.0	0.5	8	20	60	2	②	●
OMAL-2R-080R1.0	8.0	1.0	8	20	60	2	②	●
OMAL-2R-080R2.0	8.0	2.0	8	20	60	2	②	●
OMAL-2R-100R0.5	10.0	0.5	10	25	75	2	②	●
OMAL-2R-100R1.0	10.0	1.0	10	25	75	2	②	●
OMAL-2R-100R2.0	10.0	2.0	10	25	75	2	②	●
OMAL-2R-120R0.5	12.0	0.5	12	30	75	2	②	●
OMAL-2R-120R1.0	12.0	1.0	12	30	75	2	②	●
OMAL-2R-120R2.0	12.0	2.0	12	30	75	2	②	●
OMAL-2R-160R0.5	16	0.5	16	36	100	2	②	●
OMAL-2R-160R1.0	16	1.0	16	36	100	2	②	●
OMAL-2R-160R2.0	16	2.0	16	36	100	2	②	●
OMAL-2R-160R3.0	16	3.0	16	36	100	2	②	●
OMAL-2R-200R0.5	20	0.5	20	45	100	2	②	●
OMAL-2R-200R1.0	20	1.0	20	45	100	2	②	●
OMAL-2R-200R2.0	20	2.0	20	45	100	2	②	●
OMAL-2R-200R3.0	20	3.0	20	45	100	2	②	●

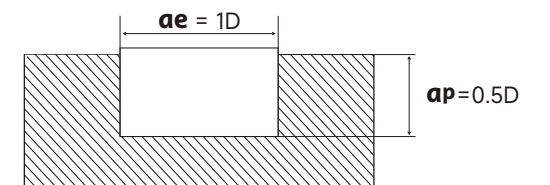
● Stock available ▲ Make-to-order

WORKPIECE MATERIAL											
Carbon steel	Alloy steel	Pre-hardened steel·Hardened steel				Stainless steel	Cast iron Nodular cast iron	Copper alloy	Aluminum alloy	Titanium alloy	High Temperature alloy
		~40	~50	~55	~68						

Hardness unit: HRC ◎ Very suitable ○ Suitable

● Stock available ▲ Make-to-order

☐ Suitable

Max Cutting Depth

- ③ The above table is based on the baseline values for side milling. The cutting conditions for slot milling are based on 70% of the feed speed in the table above.
- ③ Please use machine tools and tool holders with high rigidity and precision. When the machine tool and workpiece are installed with poor rigidity, vibration and abnormal sounds will occur. At this time, the rotating speed and feed recommended in the above table should be reduced .
- ③ When the cutting depth is small, the Rotating speed and Feed speed can be increased.
- ③ Please use water-soluble cutting fluid.
- ③ Down milling is recommended for side milling.
- ③ Keep the overhang length of the tool as short as possible without interference.

ODP

DRILL SERIES FOR HIGH-PERFORMANCE GENERAL MACHINING

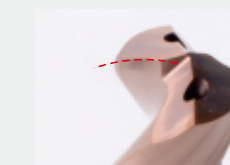
Product series

ODP

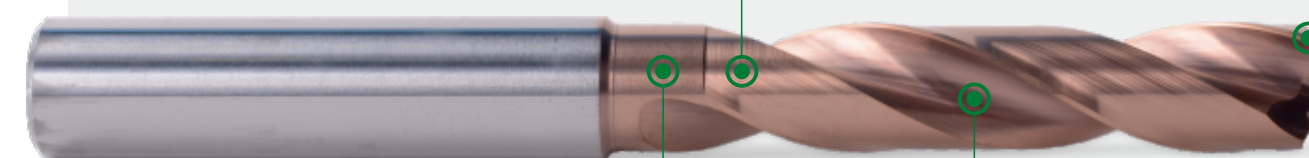
Drill Series For High-performance General Machining

Drill tip cutting edge type

The optimized crescent cutting edge enables good hole accuracy and chip handling

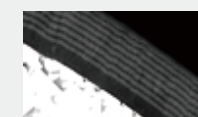


New generation of TiSiN Composite coating for general purpose drills



Excellent composite coating technology

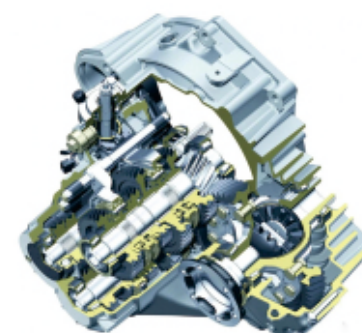
Unique multilayer coating technology, It has excellent wear resistance, heat resistance and solubility resistance.



Fluid chip breaker

Adopt new groove shape, reduce cutting resistance and improve drill strength, iron chip processing is excellent, smooth chip removal, strong versatility.

Application Parts



Automotive
high-pressure fuel rail



Automotive
engine crankcase



Flange plate

OKE 欧科亿

ODP

Product series

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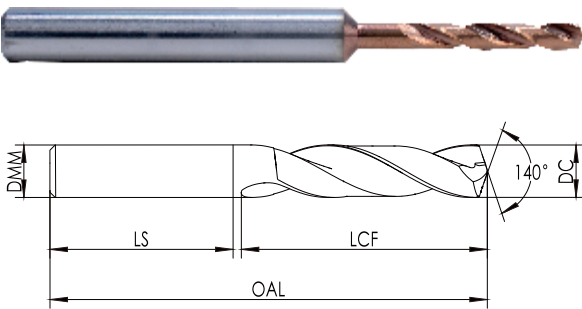
ODP-03E

SD Series Drills

01

High Performance General Machining 3d External Cooling Twist Drill

Carbon steel, alloy steel, cast iron, pre-hardened steel (≤40HRC)



DC tolerance m7

Shank tolerance h6



TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E0300	External cooling	3.0	20	6	36	62	●
ODP-03E0310	External cooling	3.1	20	6	36	62	●
ODP-03E0320	External cooling	3.2	20	6	36	62	●
ODP-03E0330	External cooling	3.3	20	6	36	62	●
ODP-03E0340	External cooling	3.4	20	6	36	62	●
ODP-03E0350	External cooling	3.5	20	6	36	62	●
ODP-03E0360	External cooling	3.6	20	6	36	62	●
ODP-03E0370	External cooling	3.7	20	6	36	62	●
ODP-03E0380	External cooling	3.8	24	6	36	66	●
ODP-03E0390	External cooling	3.9	24	6	36	66	●
ODP-03E0400	External cooling	4.0	24	6	36	66	●
ODP-03E0410	External cooling	4.1	24	6	36	66	●
ODP-03E0420	External cooling	4.2	24	6	36	66	●
ODP-03E0430	External cooling	4.3	24	6	36	66	●
ODP-03E0440	External cooling	4.4	24	6	36	66	●
ODP-03E0450	External cooling	4.5	24	6	36	66	●
ODP-03E0460	External cooling	4.6	24	6	36	66	●
ODP-03E0470	External cooling	4.7	24	6	36	66	●
ODP-03E0480	External cooling	4.8	28	6	36	66	●
ODP-03E0490	External cooling	4.9	28	6	36	66	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E0500	External cooling	5.0	28	6	36	66	●
ODP-03E0510	External cooling	5.1	28	6	36	66	●
ODP-03E0520	External cooling	5.2	28	6	36	66	●
ODP-03E0530	External cooling	5.3	28	6	36	66	●
ODP-03E0540	External cooling	5.4	28	6	36	66	●
ODP-03E0550	External cooling	5.5	28	6	36	66	●
ODP-03E0560	External cooling	5.6	28	6	36	66	●
ODP-03E0570	External cooling	5.7	28	6	36	66	●
ODP-03E0580	External cooling	5.8	28	6	36	66	●
ODP-03E0590	External cooling	5.9	28	6	36	66	●
ODP-03E0600	External cooling	6.0	28	6	36	66	●
ODP-03E0610	External cooling	6.1	34	8	36	79	●
ODP-03E0620	External cooling	6.2	34	8	36	79	●
ODP-03E0630	External cooling	6.3	34	8	36	79	●
ODP-03E0640	External cooling	6.4	34	8	36	79	●
ODP-03E0650	External cooling	6.5	34	8	36	79	●
ODP-03E0660	External cooling	6.6	34	8	36	79	●
ODP-03E0670	External cooling	6.7	34	8	36	79	●
ODP-03E0680	External cooling	6.8	34	8	36	79	●
ODP-03E0690	External cooling	6.9	34	8	36	79	●
ODP-03E0700	External cooling	7.0	34	8	36	79	●
ODP-03E0710	External cooling	7.1	41	8	36	79	●
ODP-03E0720	External cooling	7.2	41	8	36	79	●
ODP-03E0730	External cooling	7.3	41	8	36	79	●
ODP-03E0740	External cooling	7.4	41	8	36	79	●
ODP-03E0750	External cooling	7.5	41	8	36	79	●
ODP-03E0760	External cooling	7.6	41	8	36	79	●
ODP-03E0770	External cooling	7.7	41	8	36	79	●
ODP-03E0780	External cooling	7.8	41	8	36	79	●
ODP-03E0790	External cooling	7.9	41	8	36	79	●
ODP-03E0800	External cooling	8.0	41	8	36	79	●
ODP-03E0810	External cooling	8.1	47	10	40	89	●
ODP-03E0820	External cooling	8.2	47	10	40	89	●
ODP-03E0830	External cooling	8.3	47	10	40	89	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E0840	External cooling	8.4	47	10	40	89	●
ODP-03E0850	External cooling	8.5	47	10	40	89	●
ODP-03E0860	External cooling	8.6	47	10	40	89	●
ODP-03E0870	External cooling	8.7	47	10	40	89	●
ODP-03E0880	External cooling	8.8	47	10	40	89	●
ODP-03E0890	External cooling	8.9	47	10	40	89	●
ODP-03E0900	External cooling	9.0	47	10	40	89	●
ODP-03E0910	External cooling	9.1	47	10	40	89	●
ODP-03E0920	External cooling	9.2	47	10	40	89	●
ODP-03E0930	External cooling	9.3	47	10	40	89	●
ODP-03E0940	External cooling	9.4	47	10	40	89	●
ODP-03E0950	External cooling	9.5	47	10	40	89	●
ODP-03E0960	External cooling	9.6	47	10	40	89	●
ODP-03E0970	External cooling	9.7	47	10	40	89	●
ODP-03E0980	External cooling	9.8	47	10	40	89	●
ODP-03E0990	External cooling	9.9	47	10	40	89	●
ODP-03E1000	External cooling	10.0	47	10	40	89	●
ODP-03E1010	External cooling	10.1	55	12	45	102	●
ODP-03E1020	External cooling	10.2	55	12	45	102	●
ODP-03E1030	External cooling	10.3	55	12	45	102	●
ODP-03E1040	External cooling	10.4	55	12	45	102	●
ODP-03E1050	External cooling	10.5	55	12	45	102	●
ODP-03E1060	External cooling	10.6	55	12	45	102	●
ODP-03E1070	External cooling	10.7	55	12	45	102	●
ODP-03E1080	External cooling	10.8	55	12	45	102	●
ODP-03E1090	External cooling	10.9	55	12	45	102	●
ODP-03E1100	External cooling	11.0	55	12	45	102	●
ODP-03E1110	External cooling	11.1	55	12	45	102	●
ODP-03E1120	External cooling	11.2	55	12	45	102	●
ODP-03E1130	External cooling	11.3	55	12	45	102	●
ODP-03E1140	External cooling	11.4	55	12	45	102	●
ODP-03E1150	External cooling	11.5	55	12	45	102	●
ODP-03E1160	External cooling	11.6	55	12	45	102	●
ODP-03E1170	External cooling	11.7	55	12	45	102	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E1180	External cooling	11.8	55	12	45	102	●
ODP-03E1190	External cooling	11.9	55	12	45	102	●
ODP-03E1200	External cooling	12.0	55	12	45	102	●
ODP-03E1210	External cooling	12.1	60	14	45	107	●
ODP-03E1220	External cooling	12.2	60	14	45	107	●
ODP-03E1230	External cooling	12.3	60	14	45	107	●
ODP-03E1240	External cooling	12.4	60	14	45	107	●
ODP-03E1250	External cooling	12.5	60	14	45	107	●
ODP-03E1260	External cooling	12.6	60	14	45	107	●
ODP-03E1270	External cooling	12.7	60	14	45	107	●
ODP-03E1280	External cooling	12.8	60	14	45	107	●
ODP-03E1290	External cooling	12.9	60	14	45	107	●
ODP-03E1300	External cooling	13.0	60	14	45	107	●
ODP-03E1310	External cooling	13.1	60	14	45	107	●
ODP-03E1320	External cooling	13.2	60	14	45	107	●
ODP-03E1330	External cooling	13.3	60	14	45	107	●
ODP-03E1340	External cooling	13.4	60	14	45	107	●
ODP-03E1350	External cooling	13.5	60	14	45	107	●
ODP-03E1360	External cooling	13.6	60	14	45	107	●
ODP-03E1370	External cooling	13.7	60	14	45	107	●
ODP-03E1380	External cooling	13.8	60	14	45	107	●
ODP-03E1390	External cooling	13.9	60	14	45	107	●
ODP-03E1400	External cooling	14.0	60	14	45	107	●
ODP-03E1410	External cooling	14.1	65	16	48	115	●
ODP-03E1420	External cooling	14.2	65	16	48	115	●
ODP-03E1430	External cooling	14.3	65	16	48	115	●
ODP-03E1440	External cooling	14.4	65	16	48	115	●
ODP-03E1450	External cooling	14.5	65	16	48	115	●
ODP-03E1460	External cooling	14.6	65	16	48	115	●
ODP-03E1470	External cooling	14.7	65	16	48	115	●
ODP-03E1480	External cooling	14.8	65	16	48	115	●
ODP-03E1490	External cooling	14.9	65	16	48	115	●
ODP-03E1500	External cooling	15.0	65	16	48	115	●
ODP-03E1510	External cooling	15.1	65	16	48	115	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E1520	External cooling	15.2	65	16	48	115	●
ODP-03E1530	External cooling	15.3	65	16	48	115	●
ODP-03E1540	External cooling	15.4	65	16	48	115	●
ODP-03E1550	External cooling	15.5	65	16	48	115	●
ODP-03E1560	External cooling	15.6	65	16	48	115	●
ODP-03E1570	External cooling	15.7	65	16	48	115	●
ODP-03E1580	External cooling	15.8	65	16	48	115	●
ODP-03E1590	External cooling	15.9	65	16	48	115	●
ODP-03E1600	External cooling	16.0	65	16	48	115	●
ODP-03E1610	External cooling	16.1	73	18	48	123	●
ODP-03E1620	External cooling	16.2	73	18	48	123	●
ODP-03E1630	External cooling	16.3	73	18	48	123	●
ODP-03E1640	External cooling	16.4	73	18	48	123	●
ODP-03E1650	External cooling	16.5	73	18	48	123	●
ODP-03E1660	External cooling	16.6	73	18	48	123	●
ODP-03E1670	External cooling	16.7	73	18	48	123	●
ODP-03E1680	External cooling	16.8	73	18	48	123	●
ODP-03E1690	External cooling	16.9	73	18	48	123	●
ODP-03E1700	External cooling	17.0	73	18	48	123	●
ODP-03E1710	External cooling	17.1	73	18	48	123	●
ODP-03E1720	External cooling	17.2	73	18	48	123	●
ODP-03E1730	External cooling	17.3	73	18	48	123	●
ODP-03E1740	External cooling	17.4	73	18	48	123	●
ODP-03E1750	External cooling	17.5	73	18	48	123	●
ODP-03E1760	External cooling	17.6	73	18	48	123	●
ODP-03E1770	External cooling	17.7	73	18	48	123	●
ODP-03E1780	External cooling	17.8	73	18	48	123	●
ODP-03E1790	External cooling	17.9	73	18	48	123	●
ODP-03E1800	External cooling	18.0	73	18	48	123	●
ODP-03E1810	External cooling	18.1	79	20	50	131	●
ODP-03E1820	External cooling	18.2	79	20	50	131	●
ODP-03E1830	External cooling	18.3	79	20	50	131	●
ODP-03E1840	External cooling	18.4	79	20	50	131	●
ODP-03E1850	External cooling	18.5	79	20	50	131	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03E1860	External cooling	18.6	79	20	50	131	●
ODP-03E1870	External cooling	18.7	79	20	50	131	●
ODP-03E1880	External cooling	18.8	79	20	50	131	●
ODP-03E1890	External cooling	18.9	79	20	50	131	●
ODP-03E1900	External cooling	19.0	79	20	50	131	●
ODP-03E1910	External cooling	19.1	79	20	50	131	●
ODP-03E1920	External cooling	19.2	79	20	50	131	●
ODP-03E1930	External cooling	19.3	79	20	50	131	●
ODP-03E1940	External cooling	19.4	79	20	50	131	●
ODP-03E1950	External cooling	19.5	79	20	50	131	●
ODP-03E1960	External cooling	19.6	79	20	50	131	●
ODP-03E1970	External cooling	19.7	79	20	50	131	●
ODP-03E1980	External cooling	19.8	79	20	50	131	●
ODP-03E1990	External cooling	19.9	79	20	50	131	●
ODP-03E2000	External cooling	20.0	79	20	50	131	●

● Stock available ▲ Make-to-order

ODP-03I

SD Series Drills

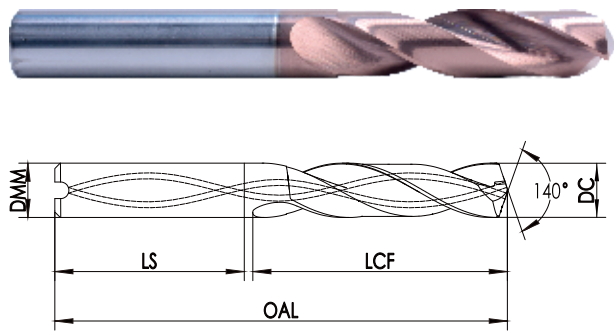
02

High Performance General

Machining 3d Internal

Cooling Twist Drill

Carbon steel, alloy steel, cast iron,
pre-hardened steel (≤40HRC)



DC tolerance m7

Shank tolerance h6



TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I0300	Internal cooling	3.0	20	6	36	62	●
ODP-03I0310	Internal cooling	3.1	20	6	36	62	●
ODP-03I0320	Internal cooling	3.2	20	6	36	62	●
ODP-03I0330	Internal cooling	3.3	20	6	36	62	●
ODP-03I0340	Internal cooling	3.4	20	6	36	62	●
ODP-03I0350	Internal cooling	3.5	20	6	36	62	●
ODP-03I0360	Internal cooling	3.6	20	6	36	62	●
ODP-03I0370	Internal cooling	3.7	20	6	36	62	●
ODP-03I0380	Internal cooling	3.8	24	6	36	66	●
ODP-03I0390	Internal cooling	3.9	24	6	36	66	●
ODP-03I0400	Internal cooling	4.0	24	6	36	66	●
ODP-03I0410	Internal cooling	4.1	24	6	36	66	●
ODP-03I0420	Internal cooling	4.2	24	6	36	66	●
ODP-03I0430	Internal cooling	4.3	24	6	36	66	●
ODP-03I0440	Internal cooling	4.4	24	6	36	66	●
ODP-03I0450	Internal cooling	4.5	24	6	36	66	●
ODP-03I0460	Internal cooling	4.6	24	6	36	66	●
ODP-03I0470	Internal cooling	4.7	24	6	36	66	●
ODP-03I0480	Internal cooling	4.8	28	6	36	66	●
ODP-03I0490	Internal cooling	4.9	28	6	36	66	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I0500	Internal cooling	5.0	28	6	36	66	●
ODP-03I0510	Internal cooling	5.1	28	6	36	66	●
ODP-03I0520	Internal cooling	5.2	28	6	36	66	●
ODP-03I0530	Internal cooling	5.3	28	6	36	66	●
ODP-03I0540	Internal cooling	5.4	28	6	36	66	●
ODP-03I0550	Internal cooling	5.5	28	6	36	66	●
ODP-03I0560	Internal cooling	5.6	28	6	36	66	●
ODP-03I0570	Internal cooling	5.7	28	6	36	66	●
ODP-03I0580	Internal cooling	5.8	28	6	36	66	●
ODP-03I0590	Internal cooling	5.9	28	6	36	66	●
ODP-03I0600	Internal cooling	6.0	28	6	36	66	●
ODP-03I0610	Internal cooling	6.1	34	8	36	79	●
ODP-03I0620	Internal cooling	6.2	34	8	36	79	●
ODP-03I0630	Internal cooling	6.3	34	8	36	79	●
ODP-03I0640	Internal cooling	6.4	34	8	36	79	●
ODP-03I0650	Internal cooling	6.5	34	8	36	79	●
ODP-03I0660	Internal cooling	6.6	34	8	36	79	●
ODP-03I0670	Internal cooling	6.7	34	8	36	79	●
ODP-03I0680	Internal cooling	6.8	34	8	36	79	●
ODP-03I0690	Internal cooling	6.9	34	8	36	79	●
ODP-03I0700	Internal cooling	7.0	34	8	36	79	●
ODP-03I0710	Internal cooling	7.1	41	8	36	79	●
ODP-03I0720	Internal cooling	7.2	41	8	36	79	●
ODP-03I0730	Internal cooling	7.3	41	8	36	79	●
ODP-03I0740	Internal cooling	7.4	41	8	36	79	●
ODP-03I0750	Internal cooling	7.5	41	8	36	79	●
ODP-03I0760	Internal cooling	7.6	41	8	36	79	●
ODP-03I0770	Internal cooling	7.7	41	8	36	79	●
ODP-03I0780	Internal cooling	7.8	41	8	36	79	●
ODP-03I0790	Internal cooling	7.9	41	8	36	79	●
ODP-03I0800	Internal cooling	8.0	41	8	36	79	●
ODP-03I0810	Internal cooling	8.1	47	10	40	89	●
ODP-03I0820	Internal cooling	8.2	47	10	40	89	●
ODP-03I0830	Internal cooling	8.3	47	10	40	89	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I0840	Internal cooling	8.4	47	10	40	89	●
ODP-03I0850	Internal cooling	8.5	47	10	40	89	●
ODP-03I0860	Internal cooling	8.6	47	10	40	89	●
ODP-03I0870	Internal cooling	8.7	47	10	40	89	●
ODP-03I0880	Internal cooling	8.8	47	10	40	89	●
ODP-03I0890	Internal cooling	8.9	47	10	40	89	●
ODP-03I0900	Internal cooling	9.0	47	10	40	89	●
ODP-03I0910	Internal cooling	9.1	47	10	40	89	●
ODP-03I0920	Internal cooling	9.2	47	10	40	89	●
ODP-03I0930	Internal cooling	9.3	47	10	40	89	●
ODP-03I0940	Internal cooling	9.4	47	10	40	89	●
ODP-03I0950	Internal cooling	9.5	47	10	40	89	●
ODP-03I0960	Internal cooling	9.6	47	10	40	89	●
ODP-03I0970	Internal cooling	9.7	47	10	40	89	●
ODP-03I0980	Internal cooling	9.8	47	10	40	89	●
ODP-03I0990	Internal cooling	9.9	47	10	40	89	●
ODP-03I1000	Internal cooling	10.0	47	10	40	89	●
ODP-03I1010	Internal cooling	10.1	55	12	45	102	●
ODP-03I1020	Internal cooling	10.2	55	12	45	102	●
ODP-03I1030	Internal cooling	10.3	55	12	45	102	●
ODP-03I1040	Internal cooling	10.4	55	12	45	102	●
ODP-03I1050	Internal cooling	10.5	55	12	45	102	●
ODP-03I1060	Internal cooling	10.6	55	12	45	102	●
ODP-03I1070	Internal cooling	10.7	55	12	45	102	●
ODP-03I1080	Internal cooling	10.8	55	12	45	102	●
ODP-03I1090	Internal cooling	10.9	55	12	45	102	●
ODP-03I1100	Internal cooling	11.0	55	12	45	102	●
ODP-03I1110	Internal cooling	11.1	55	12	45	102	●
ODP-03I1120	Internal cooling	11.2	55	12	45	102	●
ODP-03I1130	Internal cooling	11.3	55	12	45	102	●
ODP-03I1140	Internal cooling	11.4	55	12	45	102	●
ODP-03I1150	Internal cooling	11.5	55	12	45	102	●
ODP-03I1160	Internal cooling	11.6	55	12	45	102	●
ODP-03I1170	Internal cooling	11.7	55	12	45	102	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I1180	Internal cooling	11.8	55	12	45	102	●
ODP-03I1190	Internal cooling	11.9	55	12	45	102	●
ODP-03I1200	Internal cooling	12.0	55	12	45	102	●
ODP-03I1210	Internal cooling	12.1	60	14	45	107	●
ODP-03I1220	Internal cooling	12.2	60	14	45	107	●
ODP-03I1230	Internal cooling	12.3	60	14	45	107	●
ODP-03I1240	Internal cooling	12.4	60	14	45	107	●
ODP-03I1250	Internal cooling	12.5	60	14	45	107	●
ODP-03I1260	Internal cooling	12.6	60	14	45	107	●
ODP-03I1270	Internal cooling	12.7	60	14	45	107	●
ODP-03I1280	Internal cooling	12.8	60	14	45	107	●
ODP-03I1290	Internal cooling	12.9	60	14	45	107	●
ODP-03I1300	Internal cooling	13.0	60	14	45	107	●
ODP-03I1310	Internal cooling	13.1	60	14	45	107	●
ODP-03I1320	Internal cooling	13.2	60	14	45	107	●
ODP-03I1330	Internal cooling	13.3	60	14	45	107	●
ODP-03I1340	Internal cooling	13.4	60	14	45	107	●
ODP-03I1350	Internal cooling	13.5	60	14	45	107	●
ODP-03I1360	Internal cooling	13.6	60	14	45	107	●
ODP-03I1370	Internal cooling	13.7	60	14	45	107	●
ODP-03I1380	Internal cooling	13.8	60	14	45	107	●
ODP-03I1390	Internal cooling	13.9	60	14	45	107	●
ODP-03I1400	Internal cooling	14.0	60	14	45	107	●
ODP-03I1410	Internal cooling	14.1	65	16	48	115	●
ODP-03I1420	Internal cooling	14.2	65	16	48	115	●
ODP-03I1430	Internal cooling	14.3	65	16	48	115	●
ODP-03I1440	Internal cooling	14.4	65	16	48	115	●
ODP-03I1450	Internal cooling	14.5	65	16	48	115	●
ODP-03I1460	Internal cooling	14.6	65	16	48	115	●
ODP-03I1470	Internal cooling	14.7	65	16	48	115	●
ODP-03I1480	Internal cooling	14.8	65	16	48	115	●
ODP-03I1490	Internal cooling	14.9	65	16	48	115	●
ODP-03I1500	Internal cooling	15.0	65	16	48	115	●
ODP-03I1510	Internal cooling	15.1	65	16	48	115	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I1520	Internal cooling	15.2	65	16	48	115	●
ODP-03I1530	Internal cooling	15.3	65	16	48	115	●
ODP-03I1540	Internal cooling	15.4	65	16	48	115	●
ODP-03I1550	Internal cooling	15.5	65	16	48	115	●
ODP-03I1560	Internal cooling	15.6	65	16	48	115	●
ODP-03I1570	Internal cooling	15.7	65	16	48	115	●
ODP-03I1580	Internal cooling	15.8	65	16	48	115	●
ODP-03I1590	Internal cooling	15.9	65	16	48	115	●
ODP-03I1600	Internal cooling	16.0	65	16	48	115	●
ODP-03I1610	Internal cooling	16.1	73	18	48	123	●
ODP-03I1620	Internal cooling	16.2	73	18	48	123	●
ODP-03I1630	Internal cooling	16.3	73	18	48	123	●
ODP-03I1640	Internal cooling	16.4	73	18	48	123	●
ODP-03I1650	Internal cooling	16.5	73	18	48	123	●
ODP-03I1660	Internal cooling	16.6	73	18	48	123	●
ODP-03I1670	Internal cooling	16.7	73	18	48	123	●
ODP-03I1680	Internal cooling	16.8	73	18	48	123	●
ODP-03I1690	Internal cooling	16.9	73	18	48	123	●
ODP-03I1700	Internal cooling	17.0	73	18	48	123	●
ODP-03I1710	Internal cooling	17.1	73	18	48	123	●
ODP-03I1720	Internal cooling	17.2	73	18	48	123	●
ODP-03I1730	Internal cooling	17.3	73	18	48	123	●
ODP-03I1740	Internal cooling	17.4	73	18	48	123	●
ODP-03I1750	Internal cooling	17.5	73	18	48	123	●
ODP-03I1760	Internal cooling	17.6	73	18	48	123	●
ODP-03I1770	Internal cooling	17.7	73	18	48	123	●
ODP-03I1780	Internal cooling	17.8	73	18	48	123	●
ODP-03I1790	Internal cooling	17.9	73	18	48	123	●
ODP-03I1800	Internal cooling	18.0	73	18	48	123	●
ODP-03I1810	Internal cooling	18.1	79	20	50	131	●
ODP-03I1820	Internal cooling	18.2	79	20	50	131	●
ODP-03I1830	Internal cooling	18.3	79	20	50	131	●
ODP-03I1840	Internal cooling	18.4	79	20	50	131	●
ODP-03I1850	Internal cooling	18.5	79	20	50	131	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-03I1860	Internal cooling	18.6	79	20	50	131	●
ODP-03I1870	Internal cooling	18.7	79	20	50	131	●
ODP-03I1880	Internal cooling	18.8	79	20	50	131	●
ODP-03I1890	Internal cooling	18.9	79	20	50	131	●
ODP-03I1900	Internal cooling	19.0	79	20	50	131	●
ODP-03I1910	Internal cooling	19.1	79	20	50	131	●
ODP-03I1920	Internal cooling	19.2	79	20	50	131	●
ODP-03I1930	Internal cooling	19.3	79	20	50	131	●
ODP-03I1940	Internal cooling	19.4	79	20	50	131	●
ODP-03I1950	Internal cooling	19.5	79	20	50	131	●
ODP-03I1960	Internal cooling	19.6	79	20	50	131	●
ODP-03I1970	Internal cooling	19.7	79	20	50	131	●
ODP-03I1980	Internal cooling	19.8	79	20	50	131	●
ODP-03I1990	Internal cooling	19.9	79	20	50	131	●
ODP-03I2000	Internal cooling	20.0	79	20	50	131	●

● Stock available ▲ Make-to-order

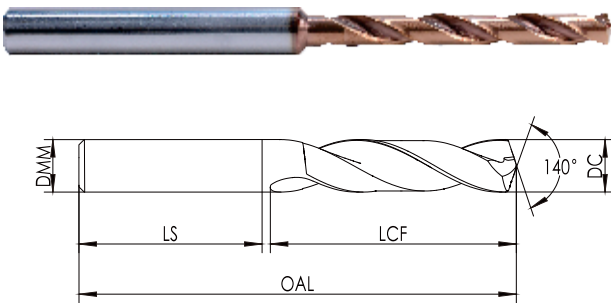
ODP-05E

SD Series Drills

03

High Performance General Machining 5d External Cooling Twist Drill

Carbon steel, alloy steel, cast iron, pre-hardened steel (≤40HRC)



DC tolerance m7

Shank tolerance h6



TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E0300	External cooling	3.0	28	6	36	66	●
ODP-05E0310	External cooling	3.1	28	6	36	66	●
ODP-05E0320	External cooling	3.2	28	6	36	66	●
ODP-05E0330	External cooling	3.3	28	6	36	66	●
ODP-05E0340	External cooling	3.4	28	6	36	66	●
ODP-05E0350	External cooling	3.5	28	6	36	66	●
ODP-05E0360	External cooling	3.6	28	6	36	66	●
ODP-05E0370	External cooling	3.7	28	6	36	66	●
ODP-05E0380	External cooling	3.8	36	6	36	74	●
ODP-05E0390	External cooling	3.9	36	6	36	74	●
ODP-05E0400	External cooling	4.0	36	6	36	74	●
ODP-05E0410	External cooling	4.1	36	6	36	74	●
ODP-05E0420	External cooling	4.2	36	6	36	74	●
ODP-05E0430	External cooling	4.3	36	6	36	74	●
ODP-05E0440	External cooling	4.4	36	6	36	74	●
ODP-05E0450	External cooling	4.5	36	6	36	74	●
ODP-05E0460	External cooling	4.6	36	6	36	74	●
ODP-05E0470	External cooling	4.7	36	6	36	74	●
ODP-05E0480	External cooling	4.8	44	6	36	82	●
ODP-05E0490	External cooling	4.9	44	6	36	82	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E0500	External cooling	5.0	44	6	36	82	●
ODP-05E0510	External cooling	5.1	44	6	36	82	●
ODP-05E0520	External cooling	5.2	44	6	36	82	●
ODP-05E0530	External cooling	5.3	44	6	36	82	●
ODP-05E0540	External cooling	5.4	44	6	36	82	●
ODP-05E0550	External cooling	5.5	44	6	36	82	●
ODP-05E0560	External cooling	5.6	44	6	36	82	●
ODP-05E0570	External cooling	5.7	44	6	36	82	●
ODP-05E0580	External cooling	5.8	44	6	36	82	●
ODP-05E0590	External cooling	5.9	44	6	36	82	●
ODP-05E0600	External cooling	6.0	44	6	36	82	●
ODP-05E0610	External cooling	6.1	53	8	36	91	●
ODP-05E0620	External cooling	6.2	53	8	36	91	●
ODP-05E0630	External cooling	6.3	53	8	36	91	●
ODP-05E0640	External cooling	6.4	53	8	36	91	●
ODP-05E0650	External cooling	6.5	53	8	36	91	●
ODP-05E0660	External cooling	6.6	53	8	36	91	●
ODP-05E0670	External cooling	6.7	53	8	36	91	●
ODP-05E0680	External cooling	6.8	53	8	36	91	●
ODP-05E0690	External cooling	6.9	53	8	36	91	●
ODP-05E0700	External cooling	7.0	53	8	36	91	●
ODP-05E0710	External cooling	7.1	53	8	36	91	●
ODP-05E0720	External cooling	7.2	53	8	36	91	●
ODP-05E0730	External cooling	7.3	53	8	36	91	●
ODP-05E0740	External cooling	7.4	53	8	36	91	●
ODP-05E0750	External cooling	7.5	53	8	36	91	●
ODP-05E0760	External cooling	7.6	53	8	36	91	●
ODP-05E0770	External cooling	7.7	53	8	36	91	●
ODP-05E0780	External cooling	7.8	53	8	36	91	●
ODP-05E0790	External cooling	7.9	53	8	36	91	●
ODP-05E0800	External cooling	8.0	53	8	36	91	●
ODP-05E0810	External cooling	8.1	61	10	40	103	●
ODP-05E0820	External cooling	8.2	61	10	40	103	●
ODP-05E0830	External cooling	8.3	61	10	40	103	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E0840	External cooling	8.4	61	10	40	103	●
ODP-05E0850	External cooling	8.5	61	10	40	103	●
ODP-05E0860	External cooling	8.6	61	10	40	103	●
ODP-05E0870	External cooling	8.7	61	10	40	103	●
ODP-05E0880	External cooling	8.8	61	10	40	103	●
ODP-05E0890	External cooling	8.9	61	10	40	103	●
ODP-05E0900	External cooling	9.0	61	10	40	103	●
ODP-05E0910	External cooling	9.1	61	10	40	103	●
ODP-05E0920	External cooling	9.2	61	10	40	103	●
ODP-05E0930	External cooling	9.3	61	10	40	103	●
ODP-05E0940	External cooling	9.4	61	10	40	103	●
ODP-05E0950	External cooling	9.5	61	10	40	103	●
ODP-05E0960	External cooling	9.6	61	10	40	103	●
ODP-05E0970	External cooling	9.7	61	10	40	103	●
ODP-05E0980	External cooling	9.8	61	10	40	103	●
ODP-05E0990	External cooling	9.9	61	10	40	103	●
ODP-05E1000	External cooling	10.0	61	10	40	103	●
ODP-05E1010	External cooling	10.1	71	12	45	118	●
ODP-05E1020	External cooling	10.2	71	12	45	118	●
ODP-05E1030	External cooling	10.3	71	12	45	118	●
ODP-05E1040	External cooling	10.4	71	12	45	118	●
ODP-05E1050	External cooling	10.5	71	12	45	118	●
ODP-05E1060	External cooling	10.6	71	12	45	118	●
ODP-05E1070	External cooling	10.7	71	12	45	118	●
ODP-05E1080	External cooling	10.8	71	12	45	118	●
ODP-05E1090	External cooling	10.9	71	12	45	118	●
ODP-05E1100	External cooling	11.0	71	12	45	118	●
ODP-05E1110	External cooling	11.1	71	12	45	118	●
ODP-05E1120	External cooling	11.2	71	12	45	118	●
ODP-05E1130	External cooling	11.3	71	12	45	118	●
ODP-05E1140	External cooling	11.4	71	12	45	118	●
ODP-05E1150	External cooling	11.5	71	12	45	118	●
ODP-05E1160	External cooling	11.6	71	12	45	118	●
ODP-05E1170	External cooling	11.7	71	12	45	118	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E1180	External cooling	11.8	71	12	45	118	●
ODP-05E1190	External cooling	11.9	71	12	45	118	●
ODP-05E1200	External cooling	12.0	71	12	45	118	●
ODP-05E1210	External cooling	12.1	77	14	45	124	●
ODP-05E1220	External cooling	12.2	77	14	45	124	●
ODP-05E1230	External cooling	12.3	77	14	45	124	●
ODP-05E1240	External cooling	12.4	77	14	45	124	●
ODP-05E1250	External cooling	12.5	77	14	45	124	●
ODP-05E1260	External cooling	12.6	77	14	45	124	●
ODP-05E1270	External cooling	12.7	77	14	45	124	●
ODP-05E1280	External cooling	12.8	77	14	45	124	●
ODP-05E1290	External cooling	12.9	77	14	45	124	●
ODP-05E1300	External cooling	13.0	77	14	45	124	●
ODP-05E1310	External cooling	13.1	77	14	45	124	●
ODP-05E1320	External cooling	13.2	77	14	45	124	●
ODP-05E1330	External cooling	13.3	77	14	45	124	●
ODP-05E1340	External cooling	13.4	77	14	45	124	●
ODP-05E1350	External cooling	13.5	77	14	45	124	●
ODP-05E1360	External cooling	13.6	77	14	45	124	●
ODP-05E1370	External cooling	13.7	77	14	45	124	●
ODP-05E1380	External cooling	13.8	77	14	45	124	●
ODP-05E1390	External cooling	13.9	77	14	45	124	●
ODP-05E1400	External cooling	14.0	77	14	45	124	●
ODP-05E1410	External cooling	14.1	83	16	48	133	●
ODP-05E1420	External cooling	14.2	83	16	48	133	●
ODP-05E1430	External cooling	14.3	83	16	48	133	●
ODP-05E1440	External cooling	14.4	83	16	48	133	●
ODP-05E1450	External cooling	14.5	83	16	48	133	●
ODP-05E1460	External cooling	14.6	83	16	48	133	●
ODP-05E1470	External cooling	14.7	83	16	48	133	●
ODP-05E1480	External cooling	14.8	83	16	48	133	●
ODP-05E1490	External cooling	14.9	83	16	48	133	●
ODP-05E1500	External cooling	15.0	83	16	48	133	●
ODP-05E1510	External cooling	15.1	83	16	48	133	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E1520	External cooling	15.2	83	16	48	133	●
ODP-05E1530	External cooling	15.3	83	16	48	133	●
ODP-05E1540	External cooling	15.4	83	16	48	133	●
ODP-05E1550	External cooling	15.5	83	16	48	133	●
ODP-05E1560	External cooling	15.6	83	16	48	133	●
ODP-05E1570	External cooling	15.7	83	16	48	133	●
ODP-05E1580	External cooling	15.8	83	16	48	133	●
ODP-05E1590	External cooling	15.9	83	16	48	133	●
ODP-05E1600	External cooling	16.0	83	16	48	133	●
ODP-05E1610	External cooling	16.1	93	18	48	143	●
ODP-05E1620	External cooling	16.2	93	18	48	143	●
ODP-05E1630	External cooling	16.3	93	18	48	143	●
ODP-05E1640	External cooling	16.4	93	18	48	143	●
ODP-05E1650	External cooling	16.5	93	18	48	143	●
ODP-05E1660	External cooling	16.6	93	18	48	143	●
ODP-05E1670	External cooling	16.7	93	18	48	143	●
ODP-05E1680	External cooling	16.8	93	18	48	143	●
ODP-05E1690	External cooling	16.9	93	18	48	143	●
ODP-05E1700	External cooling	17.0	93	18	48	143	●
ODP-05E1710	External cooling	17.1	93	18	48	143	●
ODP-05E1720	External cooling	17.2	93	18	48	143	●
ODP-05E1730	External cooling	17.3	93	18	48	143	●
ODP-05E1740	External cooling	17.4	93	18	48	143	●
ODP-05E1750	External cooling	17.5	93	18	48	143	●
ODP-05E1760	External cooling	17.6	93	18	48	143	●
ODP-05E1770	External cooling	17.7	93	18	48	143	●
ODP-05E1780	External cooling	17.8	93	18	48	143	●
ODP-05E1790	External cooling	17.9	93	18	48	143	●
ODP-05E1800	External cooling	18.0	93	18	48	143	●
ODP-05E1810	External cooling	18.1	101	20	50	153	●
ODP-05E1820	External cooling	18.2	101	20	50	153	●
ODP-05E1830	External cooling	18.3	101	20	50	153	●
ODP-05E1840	External cooling	18.4	101	20	50	153	●
ODP-05E1850	External cooling	18.5	101	20	50	153	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05E1860	External cooling	18.6	101	20	50	153	●
ODP-05E1870	External cooling	18.7	101	20	50	153	●
ODP-05E1880	External cooling	18.8	101	20	50	153	●
ODP-05E1890	External cooling	18.9	101	20	50	153	●
ODP-05E1900	External cooling	19.0	101	20	50	153	●
ODP-05E1910	External cooling	19.1	101	20	50	153	●
ODP-05E1920	External cooling	19.2	101	20	50	153	●
ODP-05E1930	External cooling	19.3	101	20	50	153	●
ODP-05E1940	External cooling	19.4	101	20	50	153	●
ODP-05E1950	External cooling	19.5	101	20	50	153	●
ODP-05E1960	External cooling	19.6	101	20	50	153	●
ODP-05E1970	External cooling	19.7	101	20	50	153	●
ODP-05E1980	External cooling	19.8	101	20	50	153	●
ODP-05E1990	External cooling	19.9	101	20	50	153	●
ODP-05E2000	External cooling	20.0	101	20	50	153	●

● Stock available ▲ Make-to-order

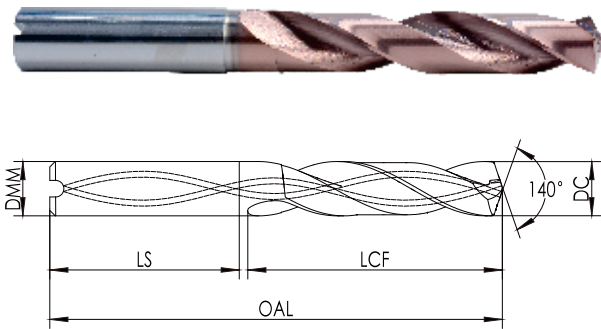
ODP-05I

SD Series Drills

04

High Performance General Machining 5d Internal Cooling Twist Drill

Carbon steel, alloy steel, cast iron, pre-hardened steel (≤40HRC)



DC tolerance m7

Shank tolerance h6



TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I0300	Internal cooling	3.0	28	6	36	66	●
ODP-05I0310	Internal cooling	3.1	28	6	36	66	●
ODP-05I0320	Internal cooling	3.2	28	6	36	66	●
ODP-05I0330	Internal cooling	3.3	28	6	36	66	●
ODP-05I0340	Internal cooling	3.4	28	6	36	66	●
ODP-05I0350	Internal cooling	3.5	28	6	36	66	●
ODP-05I0360	Internal cooling	3.6	28	6	36	66	●
ODP-05I0370	Internal cooling	3.7	28	6	36	66	●
ODP-05I0380	Internal cooling	3.8	36	6	36	74	●
ODP-05I0390	Internal cooling	3.9	36	6	36	74	●
ODP-05I0400	Internal cooling	4.0	36	6	36	74	●
ODP-05I0410	Internal cooling	4.1	36	6	36	74	●
ODP-05I0420	Internal cooling	4.2	36	6	36	74	●
ODP-05I0430	Internal cooling	4.3	36	6	36	74	●
ODP-05I0440	Internal cooling	4.4	36	6	36	74	●
ODP-05I0450	Internal cooling	4.5	36	6	36	74	●
ODP-05I0460	Internal cooling	4.6	36	6	36	74	●
ODP-05I0470	Internal cooling	4.7	36	6	36	74	●
ODP-05I0480	Internal cooling	4.8	44	6	36	82	●
ODP-05I0490	Internal cooling	4.9	44	6	36	82	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I0500	Internal cooling	5.0	44	6	36	82	●
ODP-05I0510	Internal cooling	5.1	44	6	36	82	●
ODP-05I0520	Internal cooling	5.2	44	6	36	82	●
ODP-05I0530	Internal cooling	5.3	44	6	36	82	●
ODP-05I0540	Internal cooling	5.4	44	6	36	82	●
ODP-05I0550	Internal cooling	5.5	44	6	36	82	●
ODP-05I0560	Internal cooling	5.6	44	6	36	82	●
ODP-05I0570	Internal cooling	5.7	44	6	36	82	●
ODP-05I0580	Internal cooling	5.8	44	6	36	82	●
ODP-05I0590	Internal cooling	5.9	44	6	36	82	●
ODP-05I0600	Internal cooling	6.0	44	6	36	82	●
ODP-05I0610	Internal cooling	6.1	53	8	36	91	●
ODP-05I0620	Internal cooling	6.2	53	8	36	91	●
ODP-05I0630	Internal cooling	6.3	53	8	36	91	●
ODP-05I0640	Internal cooling	6.4	53	8	36	91	●
ODP-05I0650	Internal cooling	6.5	53	8	36	91	●
ODP-05I0660	Internal cooling	6.6	53	8	36	91	●
ODP-05I0670	Internal cooling	6.7	53	8	36	91	●
ODP-05I0680	Internal cooling	6.8	53	8	36	91	●
ODP-05I0690	Internal cooling	6.9	53	8	36	91	●
ODP-05I0700	Internal cooling	7.0	53	8	36	91	●
ODP-05I0710	Internal cooling	7.1	53	8	36	91	●
ODP-05I0720	Internal cooling	7.2	53	8	36	91	●
ODP-05I0730	Internal cooling	7.3	53	8	36	91	●
ODP-05I0740	Internal cooling	7.4	53	8	36	91	●
ODP-05I0750	Internal cooling	7.5	53	8	36	91	●
ODP-05I0760	Internal cooling	7.6	53	8	36	91	●
ODP-05I0770	Internal cooling	7.7	53	8	36	91	●
ODP-05I0780	Internal cooling	7.8	53	8	36	91	●
ODP-05I0790	Internal cooling	7.9	53	8	36	91	●
ODP-05I0800	Internal cooling	8.0	53	8	36	91	●
ODP-05I0810	Internal cooling	8.1	61	10	40	103	●
ODP-05I0820	Internal cooling	8.2	61	10	40	103	●
ODP-05I0830	Internal cooling	8.3	61	10	40	103	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I0840	Internal cooling	8.4	61	10	40	103	●
ODP-05I0850	Internal cooling	8.5	61	10	40	103	●
ODP-05I0860	Internal cooling	8.6	61	10	40	103	●
ODP-05I0870	Internal cooling	8.7	61	10	40	103	●
ODP-05I0880	Internal cooling	8.8	61	10	40	103	●
ODP-05I0890	Internal cooling	8.9	61	10	40	103	●
ODP-05I0900	Internal cooling	9.0	61	10	40	103	●
ODP-05I0910	Internal cooling	9.1	61	10	40	103	●
ODP-05I0920	Internal cooling	9.2	61	10	40	103	●
ODP-05I0930	Internal cooling	9.3	61	10	40	103	●
ODP-05I0940	Internal cooling	9.4	61	10	40	103	●
ODP-05I0950	Internal cooling	9.5	61	10	40	103	●
ODP-05I0960	Internal cooling	9.6	61	10	40	103	●
ODP-05I0970	Internal cooling	9.7	61	10	40	103	●
ODP-05I0980	Internal cooling	9.8	61	10	40	103	●
ODP-05I0990	Internal cooling	9.9	61	10	40	103	●
ODP-05I1000	Internal cooling	10.0	61	10	40	103	●
ODP-05I1010	Internal cooling	10.1	71	12	45	118	●
ODP-05I1020	Internal cooling	10.2	71	12	45	118	●
ODP-05I1030	Internal cooling	10.3	71	12	45	118	●
ODP-05I1040	Internal cooling	10.4	71	12	45	118	●
ODP-05I1050	Internal cooling	10.5	71	12	45	118	●
ODP-05I1060	Internal cooling	10.6	71	12	45	118	●
ODP-05I1070	Internal cooling	10.7	71	12	45	118	●
ODP-05I1080	Internal cooling	10.8	71	12	45	118	●
ODP-05I1090	Internal cooling	10.9	71	12	45	118	●
ODP-05I1100	Internal cooling	11.0	71	12	45	118	●
ODP-05I1110	Internal cooling	11.1	71	12	45	118	●
ODP-05I1120	Internal cooling	11.2	71	12	45	118	●
ODP-05I1130	Internal cooling	11.3	71	12	45	118	●
ODP-05I1140	Internal cooling	11.4	71	12	45	118	●
ODP-05I1150	Internal cooling	11.5	71	12	45	118	●
ODP-05I1160	Internal cooling	11.6	71	12	45	118	●
ODP-05I1170	Internal cooling	11.7	71	12	45	118	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I1180	Internal cooling	11.8	71	12	45	118	●
ODP-05I1190	Internal cooling	11.9	71	12	45	118	●
ODP-05I1200	Internal cooling	12.0	71	12	45	118	●
ODP-05I1210	Internal cooling	12.1	77	14	45	124	●
ODP-05I1220	Internal cooling	12.2	77	14	45	124	●
ODP-05I1230	Internal cooling	12.3	77	14	45	124	●
ODP-05I1240	Internal cooling	12.4	77	14	45	124	●
ODP-05I1250	Internal cooling	12.5	77	14	45	124	●
ODP-05I1260	Internal cooling	12.6	77	14	45	124	●
ODP-05I1270	Internal cooling	12.7	77	14	45	124	●
ODP-05I1280	Internal cooling	12.8	77	14	45	124	●
ODP-05I1290	Internal cooling	12.9	77	14	45	124	●
ODP-05I1300	Internal cooling	13.0	77	14	45	124	●
ODP-05I1310	Internal cooling	13.1	77	14	45	124	●
ODP-05I1320	Internal cooling	13.2	77	14	45	124	●
ODP-05I1330	Internal cooling	13.3	77	14	45	124	●
ODP-05I1340	Internal cooling	13.4	77	14	45	124	●
ODP-05I1350	Internal cooling	13.5	77	14	45	124	●
ODP-05I1360	Internal cooling	13.6	77	14	45	124	●
ODP-05I1370	Internal cooling	13.7	77	14	45	124	●
ODP-05I1380	Internal cooling	13.8	77	14	45	124	●
ODP-05I1390	Internal cooling	13.9	77	14	45	124	●
ODP-05I1400	Internal cooling	14.0	77	14	45	124	●
ODP-05I1410	Internal cooling	14.1	83	16	48	133	●
ODP-05I1420	Internal cooling	14.2	83	16	48	133	●
ODP-05I1430	Internal cooling	14.3	83	16	48	133	●
ODP-05I1440	Internal cooling	14.4	83	16	48	133	●
ODP-05I1450	Internal cooling	14.5	83	16	48	133	●
ODP-05I1460	Internal cooling	14.6	83	16	48	133	●
ODP-05I1470	Internal cooling	14.7	83	16	48	133	●
ODP-05I1480	Internal cooling	14.8	83	16	48	133	●
ODP-05I1490	Internal cooling	14.9	83	16	48	133	●
ODP-05I1500	Internal cooling	15.0	83	16	48	133	●
ODP-05I1510	Internal cooling	15.1	83	16	48	133	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I1520	Internal cooling	15.2	83	16	48	133	●
ODP-05I1530	Internal cooling	15.3	83	16	48	133	●
ODP-05I1540	Internal cooling	15.4	83	16	48	133	●
ODP-05I1550	Internal cooling	15.5	83	16	48	133	●
ODP-05I1560	Internal cooling	15.6	83	16	48	133	●
ODP-05I1570	Internal cooling	15.7	83	16	48	133	●
ODP-05I1580	Internal cooling	15.8	83	16	48	133	●
ODP-05I1590	Internal cooling	15.9	83	16	48	133	●
ODP-05I1600	Internal cooling	16.0	83	16	48	133	●
ODP-05I1610	Internal cooling	16.1	93	18	48	143	●
ODP-05I1620	Internal cooling	16.2	93	18	48	143	●
ODP-05I1630	Internal cooling	16.3	93	18	48	143	●
ODP-05I1640	Internal cooling	16.4	93	18	48	143	●
ODP-05I1650	Internal cooling	16.5	93	18	48	143	●
ODP-05I1660	Internal cooling	16.6	93	18	48	143	●
ODP-05I1670	Internal cooling	16.7	93	18	48	143	●
ODP-05I1680	Internal cooling	16.8	93	18	48	143	●
ODP-05I1690	Internal cooling	16.9	93	18	48	143	●
ODP-05I1700	Internal cooling	17.0	93	18	48	143	●
ODP-05I1710	Internal cooling	17.1	93	18	48	143	●
ODP-05I1720	Internal cooling	17.2	93	18	48	143	●
ODP-05I1730	Internal cooling	17.3	93	18	48	143	●
ODP-05I1740	Internal cooling	17.4	93	18	48	143	●
ODP-05I1750	Internal cooling	17.5	93	18	48	143	●
ODP-05I1760	Internal cooling	17.6	93	18	48	143	●
ODP-05I1770	Internal cooling	17.7	93	18	48	143	●
ODP-05I1780	Internal cooling	17.8	93	18	48	143	●
ODP-05I1790	Internal cooling	17.9	93	18	48	143	●
ODP-05I1800	Internal cooling	18.0	93	18	48	143	●
ODP-05I1810	Internal cooling	18.1	101	20	50	153	●
ODP-05I1820	Internal cooling	18.2	101	20	50	153	●
ODP-05I1830	Internal cooling	18.3	101	20	50	153	●
ODP-05I1840	Internal cooling	18.4	101	20	50	153	●
ODP-05I1850	Internal cooling	18.5	101	20	50	153	●

TYPE	COOLING TYPE	BASIC DIMENSION(mm)					STOCK
		DC	LCf	DMM	LS	OAL	
ODP-05I1860	Internal cooling	18.6	101	20	50	153	●
ODP-05I1870	Internal cooling	18.7	101	20	50	153	●
ODP-05I1880	Internal cooling	18.8	101	20	50	153	●
ODP-05I1890	Internal cooling	18.9	101	20	50	153	●
ODP-05I1900	Internal cooling	19.0	101	20	50	153	●
ODP-05I1910	Internal cooling	19.1	101	20	50	153	●
ODP-05I1920	Internal cooling	19.2	101	20	50	153	●
ODP-05I1930	Internal cooling	19.3	101	20	50	153	●
ODP-05I1940	Internal cooling	19.4	101	20	50	153	●
ODP-05I1950	Internal cooling	19.5	101	20	50	153	●
ODP-05I1960	Internal cooling	19.6	101	20	50	153	●
ODP-05I1970	Internal cooling	19.7	101	20	50	153	●
ODP-05I1980	Internal cooling	19.8	101	20	50	153	●
ODP-05I1990	Internal cooling	19.9	101	20	50	153	●
ODP-05I2000	Internal cooling	20.0	101	20	50	153	●

● Stock available ▲ Make-to-order

ODP General drill Parameter Recommendation Table (External cooling)										
Workpiece Material	Soft steel HB≤180		Carbon steel alloy steel ~30HRC		Pre-harden steel ~40HRC		Cast iron		The nodular cast iron	
Cutting speed	60~120m/min		60~120m/min		40~70m/min		60~120m/min		50~100m/min	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
3	9500	0.09~0.12	9500	0.09~0.12	6300	0.09~0.12	9500	0.09~0.12	7400	0.09~0.12
4	7000	0.10~0.15	7000	0.10~0.15	4700	0.10~0.15	7000	0.10~0.15	5600	0.10~0.15
5	5700	0.12~0.18	5700	0.12~0.18	3800	0.12~0.18	5700	0.12~0.18	4500	0.12~0.18
6	4700	0.14~0.20	4700	0.14~0.20	3100	0.14~0.20	4700	0.14~0.20	3700	0.14~0.20
8	3600	0.16~0.24	3600	0.16~0.24	2400	0.16~0.24	3600	0.16~0.24	2800	0.16~0.24
10	2800	0.18~0.27	2800	0.18~0.27	1900	0.18~0.27	2800	0.18~0.27	2200	0.18~0.27
12	2400	0.20~0.30	2400	0.20~0.30	1600	0.20~0.30	2400	0.20~0.30	1900	0.20~0.30
14	2100	0.22~0.35	2100	0.22~0.35	1400	0.22~0.35	2100	0.22~0.35	1600	0.22~0.35
16	1800	0.25~0.36	1800	0.25~0.36	1200	0.25~0.36	1800	0.25~0.36	1400	0.25~0.36
18	1600	0.28~0.38	1600	0.28~0.38	1100	0.28~0.38	1600	0.28~0.38	1200	0.28~0.38
20	1400	0.09~0.12	1400	0.09~0.12	950	0.09~0.12	1400	0.09~0.12	1100	0.09~0.12

- When using the tool for the first time, test cutting according to the above cutting speed of 90% or Feed speed of 85%. When the cutting condition is stable, the cutting speed and feed rate are increased one by one.
- This standard cutting conditions table is suitable for water-soluble cutting fluids.
- When installing the drill, use a clean chuck without defects and keep the radial runout of the drill within 0.02mm.
- The cutting conditions of this table are suitable for occasions with hole depth below 5D.

ODP General drill Parameter Recommendation Table (Internal cooling)										
Workpiece Material	Soft steel HB≤180		Carbon steel alloy steel ~30HRC		Pre-harden steel ~40HRC		Cast iron		The nodular cast iron	
Cutting speed	60~120m/min		60~120m/min		40~70m/min		60~120m/min		50~100m/min	
Diameter (mm)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)	Rotating Speed (min ⁻¹)	Feed Speed (mm/min)
3	12700	0.09~0.12	12700	0.09~0.12	7400	0.09~0.12	12700	0.09~0.12	9500	0.09~0.12
4	9600	0.10~0.15	9600	0.10~0.15	5600	0.10~0.15	9600	0.10~0.15	7000	0.10~0.15
5	7600	0.12~0.18	7600	0.12~0.18	4500	0.12~0.18	7600	0.12~0.18	5700	0.12~0.18
6	6400	0.14~0.20	6400	0.14~0.20	3700	0.14~0.20	6400	0.14~0.20	4700	0.14~0.20
8	4800	0.16~0.24	4800	0.16~0.24	2800	0.16~0.24	4800	0.16~0.24	3600	0.16~0.24
10	3800	0.18~0.27	3800	0.18~0.27	2200	0.18~0.27	3800	0.18~0.27	2800	0.18~0.27
12	3200	0.20~0.30	3200	0.20~0.30	1900	0.20~0.30	3200	0.20~0.30	2400	0.20~0.30
14	2700	0.22~0.35	2700	0.22~0.35	1600	0.22~0.35	2700	0.22~0.35	2100	0.22~0.35
16	2400	0.25~0.36	2400	0.25~0.36	1400	0.25~0.36	2400	0.25~0.36	1800	0.25~0.36
18	2100	0.28~0.38	2100	0.28~0.38	1200	0.28~0.38	2100	0.28~0.38	1600	0.28~0.38
20	1900	0.09~0.12	1900	0.09~0.12	1100	0.09~0.12	1900	0.09~0.12	1400	0.09~0.12

- When using the tool for the first time, test cutting according to the above cutting speed of 90% or Feed speed of 85%. When the cutting condition is stable, the cutting speed and feed rate are increased one by one.
- This standard cutting conditions table is suitable for water-soluble cutting fluids.
- When installing the drill, use a clean chuck without defects and keep the radial runout of the drill within 0.02mm.
- The cutting conditions of this table are suitable for occasions with hole depth below 5D.