

SOLID CARBIDE ENDMILLS
Catalogue





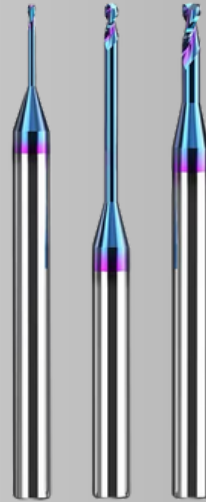
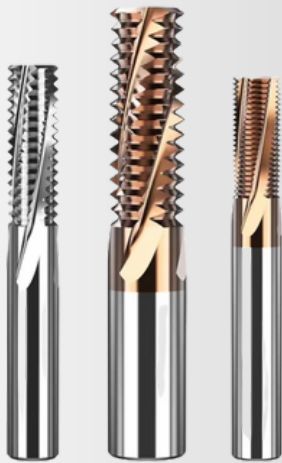
About Us.

High Performance Tools for Machining



The company is uncompromisingly focused on the production of high-precision micro tools of highest dimensional accuracy, quality, and process reliability. These qualities are achieved by state-of-the-art production methods, selected solid carbides from leading manufacturers and special coating options. Weber high-precision tools and solutions are offered for every purpose and every material, precisely tailored to customer requirements.

Weber Werkzeuge has been a pioneer and trendsetter in the field of micro-cutting, stamping, and forming tools for around 10 years. Their modern CNC machine park, high-end measuring and testing technologies as well as their intensive cooperation with customers and partners are guarantors for the outstanding perfection of these tools. Accordingly, Weber Werkzeuge are used for demanding applications in various industries, such as in medical and dental technology, watchmaking, automotive industry and tool- and mold making.



**High
Technology
Grinding**



High Performance End Mills

HRC ~ 45

Good wear resistance by high quality AlCrN coating.
Optimum for heavy condition by short flute design.
Reinforced edge design for preventing edge chipping.
Short overall length for easy use with shrinking chuck.



High Speed Drills



Price Satisfaction, Performance Satisfaction
Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



High-End Versatile End Mills

HRC ~ 55

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.
Reinforced edge design for preventing edge chipping.
One versatile tool concept for all applications and materials.



Hardened Steel End Mills

HRC 52 ~ 68

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



Stainless Steel End Mills

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.
Strong design for protection against chattering.
Excellent work surface finish by 4 flute and deep chip pocket.



Aluminum Carbide End Mills

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.



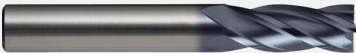
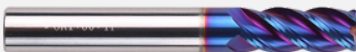


SERIES	IMAGE	DESCRIPTION	SIZE Ø(mm)	PAGE
2MCE		Micro Rib End Mills	0,5 - 2,5	1 - 2
4CSEE		Short Length End Mills	3,0 - 20	3
2CSE		Standard Length End Mills	3,0 - 20	4
4CSE		Standard Length End Mills	3,0 - 20	5
4CLE		Long Length End Mills	3,0 - 20	6 - 7
4CSC		Corner Radius End Mills	3,0 - 20	8 - 10
4CLC		Corner Radius Long End Mills	3,0 - 20	11 - 14
2MCB		Micro Rib Ball End Mills	0,5 - 2,5	15 - 16
2CSB		Standard Length Ball End Mills	3,0 - 20	17
4CSB		Standard Length Ball End Mills	3,0 - 20	18
2CLB		Long Length Ball End Mills	3,0 - 20	19 - 20
4CLB		Long Length Ball End Mills	3,0 - 20	21-22
4MSE		Stainless Steel Standard Length End Mills	3,0 - 20	23
4MLE		Stainless Steel Long Length End Mills	6,0 - 20	24

Workpiece material(s)

P	M	K	N	S	H
					
					
					
					
					
					
					
					
					
					
					
					
					
					



SERIES	IMAGE	DESCRIPTION	SIZE Ø(mm)	PAGE
4DSE		Double Armor Standard Length End Mills	3,0 - 20	25
4CHE		Standard Length End Mills	3,0 - 20	26
4SXE		Standard Length End Mills	1,0 - 20	27 - 30
4SWE		High Performance End Mills for Hardened Steels	1,0 - 20	31 - 34
4SXC		Corner Radius End Mills	2,0 - 20	35 - 40
4SWC		Corner Radius End Mills for Hardened Steels	2,0 - 20	41 - 46
5CHE		Standard Length End Mills	3,0 - 20	47
6MSE		Standard Length End Mills	6,0 - 20	48
4CRE		Roughing End Mills	6,0 - 20	49
2SXB		High Performance Ball End Mills	1,0 - 20	50 - 53
2SWB		Ball End Mills for Hardened Steels	1,0 - 20	54 - 57
2CHB		Ball End Mills for Hardened Steels	3,0 - 20	58
4HSC		Corner Radius End Mills for Hardened Steels	3,0 - 20	59 - 61
4HLC		Corner Radius Long Length End Mills	6,0 - 20	62 - 64

Workpiece material(s)

Workpiece material(s)					
P	M	K	N	S	H
✓		✓			
✓	✓	✓	✓	✓	✓
✓		✓			
					✓
✓		✓			
					✓
✓		✓			
✓		✓			
✓		✓			
					✓
					✓
✓		✓			
✓		✓			



SERIES	IMAGE	DESCRIPTION	SIZE Ø(mm)	PAGE
4HFC		High Speed Radius Cutter	4,0 - 12	65
2ASE		End Mills for Aluminum	3,0 - 20	66
2SNE		45° End Mills for Aluminum	1,0 - 20	67 - 69
3ASE		End Mills for Aluminum	3,0 - 20	70
3SNE		45° End Mills for Aluminum	1,0 - 20	71 - 73
3ALE		Long Length End Mills for Aluminum	3,0 - 20	74
3AZE		End Mills for Aluminum Coated	3,0 - 20	75
2ASB		Ball End Mills for Aluminum	3,0 - 20	76
2ALB		Ball Long Length End Mills for Aluminum	3,0 - 20	77 - 78
2CTB		Taper Neck Ball End Mills	1,0 - 5,0	79
4CRC		Corner Rounding Cutter End Mills	6,0 - 20	80
4TSE		Straight Flute Taper End Mills	3,0 - 20	81
3TMM		Thread Mill Metric	1,6 - 16	82
3TUC		Thread Mill UNC	1/ - 3/4	83

Workpiece material(s)

P	M	K	N	S	H
✓		✓			
			✓		
			✓		
			✓		
			✓		
			✓		
			✓		
✓					
✓	✓	✓			
✓	✓	✓			
✓	✓	✓		✓	
✓	✓	✓		✓	



Workpiece material(s)

P	M	K	N	S	H
					
					
					
					
					
					
					
					
					
					

END MILLS

HIGH PERFORMANCE TECHNOLOGY

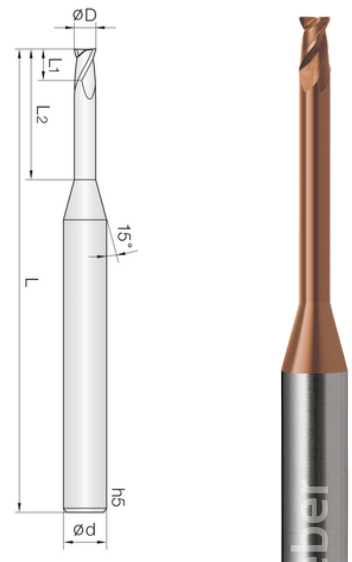
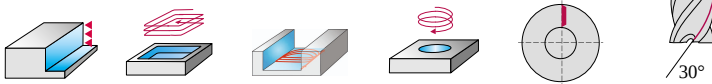
2MCE

2 Flutes High Speed Rib End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L2	L	d	Z
2MCE-005-030-04	0,5	0,5	3	50	4	2
2MCE-005-050-04	0,5	0,5	5	50	4	2
2MCE-010-030-04	1	1,5	3	50	4	2
2MCE-010-040-04	1	1,5	4	50	4	2
2MCE-010-060-04	1	1,5	6	50	4	2
2MCE-010-080-04	1	1,5	8	50	4	2
2MCE-010-100-04	1	1,5	10	50	4	2
2MCE-010-120-04	1	1,5	12	50	4	2
2MCE-010-160-04	1	1,5	16	50	4	2
2MCE-015-040-04	1,5	2,25	4	50	4	2
2MCE-015-060-04	1,5	2,25	6	50	4	2
2MCE-015-100-04	1,5	2,25	10	50	4	2
2MCE-015-120-04	1,5	2,25	12	50	4	2
2MCE-015-160-04	1,5	2,25	16	50	4	2
2MCE-015-200-04	1,5	2,25	20	65	4	2
2MCE-020-060-04	2	3	6	50	4	2

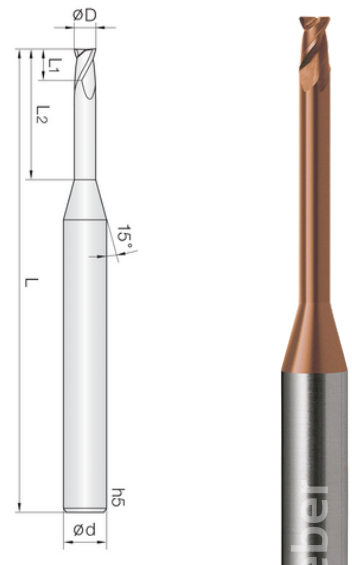
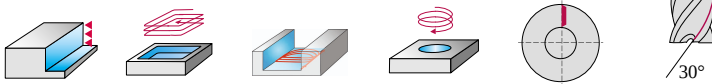
2MCE

2 Flutes High Speed Rib End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Very nice work surface finish.

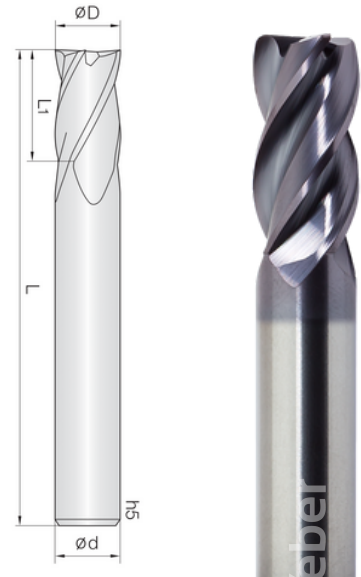
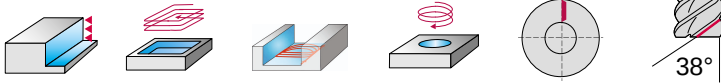


ORDER CODE	D	L1	L2	L	d	Z
2MCE-020-080-04	2	3	8	50	4	2
2MCE-020-100-04	2	3	10	50	4	2
2MCE-020-120-04	2	3	12	50	4	2
2MCE-020-160-04	2	3	16	50	4	2
2MCE-020-200-04	2	3	20	65	4	2
2MCE-025-120-04	2,5	3,75	12	50	4	2
2MCE-025-200-04	2,5	3,75	20	65	4	2

4CSEE

4 Flutes High Speed Short Length End Mills

Good wear resistance by high quality AlCrN coating.
Optimum for heavy condition by short flute design.
Reinforced edge design for preventing edge chipping.
Short overall length for easy use with shrinking chuck.



ORDER CODE	D	L1	L	d	Z
4CSEE-030-080-03	3	8	50	3	4
4CSEE-040-100-04	4	10	50	4	4
4CSEE-050-130-05	5	13	55	5	4
4CSEE-060-130-06	6	13	55	6	4
4CSEE-080-160-08	8	16	55	8	4
4CSEE-100-180-10	10	18	65	10	4
4CSEE-120-260-12	12	26	72	12	4
4CSEE-160-320-16	16	32	82	16	4
4CSEE-200-320-20	20	32	82	20	4

2CSE

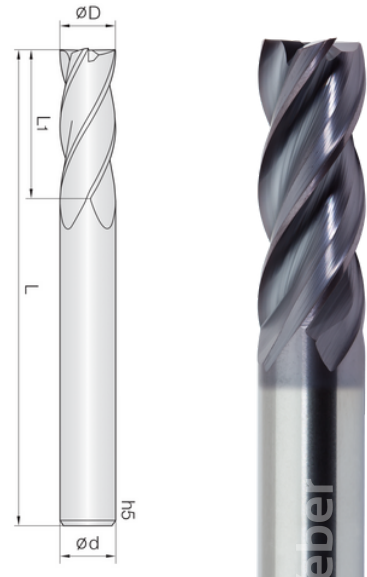
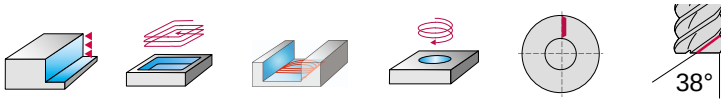
2 Flutes High Performance Standard Length End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
2CSE-030-080-06	3	8	55	6	4
2CSE-040-100-06	4	10	55	6	4
2CSE-050-130-06	5	13	55	6	4
2CSE-060-130-06	6	13	55	6	4
2CSE-080-190-08	8	19	63	8	4
2CSE-100-220-10	10	22	72	10	4
2CSE-120-300-12	12	30	82	12	4
2CSE-140-300-14	14	30	82	14	4
2CSE-160-320-16	16	32	92	16	4
2CSE-160-400-16	16	40	100	16	4
2CSE-180-400-18	18	40	100	18	4
2CSE-200-400-20	20	40	104	20	4

4CSE

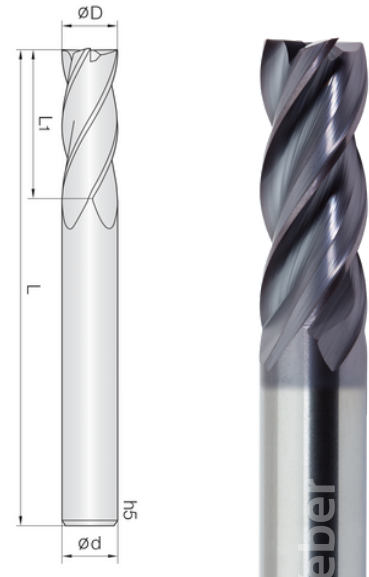
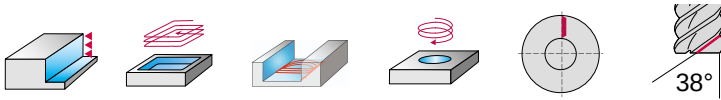
4 Flutes High Performance Standard Length End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4CSE-030-080-06	3	8	55	6	2
4CSE-040-100-06	4	10	55	6	2
4CSE-050-130-06	5	13	55	6	2
4CSE-060-130-06	6	13	55	6	2
4CSE-080-190-08	8	19	63	8	2
4CSE-100-220-10	10	22	72	10	2
4CSE-120-300-12	12	30	82	12	2
4CSE-140-300-14	14	30	82	14	2
4CSE-160-320-16	16	32	92	16	2
4CSE-160-400-16	16	40	100	16	2
4CSE-180-400-18	18	40	100	18	2
4CSE-200-400-20	20	40	104	20	2

4CLE

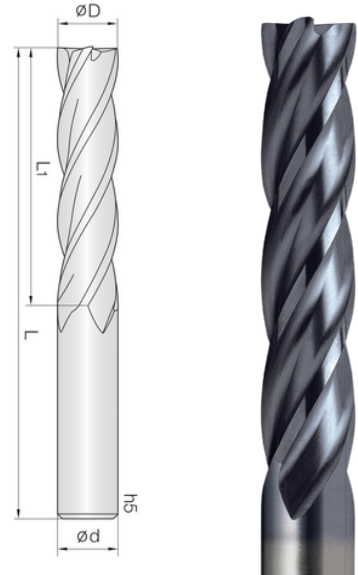
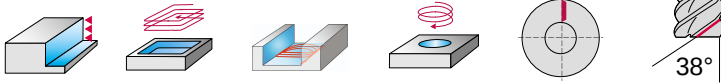
4 Flutes High Performance Long Length End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4CLE-030-150-03	3	15	82	3	4
4CLE-030-03-110	3	15	110	3	4
4CLE-040-200-04	4	20	82	4	4
4CLE-040-04-110	4	20	110	4	4
4CLE-050-250-05	5	25	82	5	4
4CLE-050-05-110	5	25	110	5	4
4CLE-060-250-06	6	25	82	6	4
4CLE-060-300-06	6	30	110	6	4
4CLE-060-400-06	6	40	150	6	4
4CLE-080-300-08	8	30	82	8	4
4CLE-080-400-08	8	40	110	8	4
4CLE-080-450-08	8	45	150	8	4
4CLE-100-450-10	10	45	110	10	4
4CLE-100-550-10	10	55	150	10	4
4CLE-120-450-12	12	45	110	12	4
4CLE-120-550-12	12	55	150	12	4

4CLE

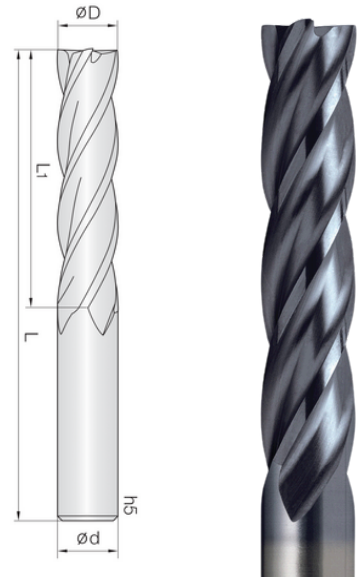
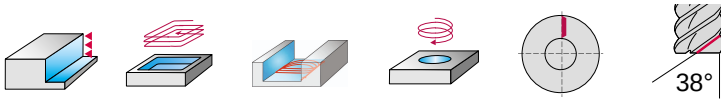
4 Flutes High Performance Long Length End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4CLE-140-600-14	14	60	150	14	4
4CLE-160-700-16	16	70	150	16	4
4CLE-180-700-18	18	70	150	18	4
4CLE-200-700-20	20	70	150	20	4

4CSC

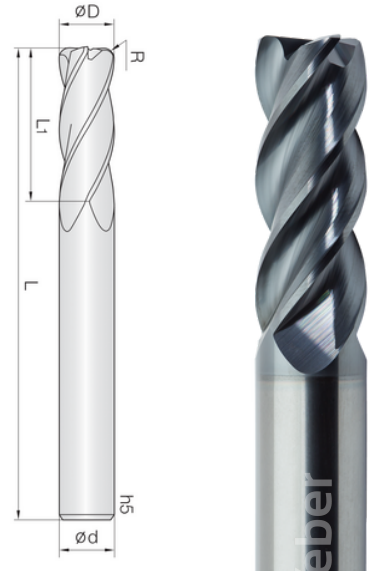
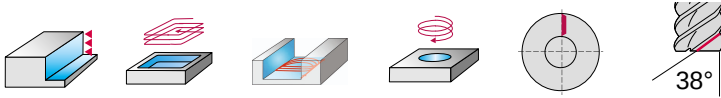
4 Flutes Corner Radius End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CSC-030-005-03	3	8	50	3	0,5	4
4CSC-030-010-03	3	8	50	3	1	4
4CSC-030-005-06	3	8	55	6	0,5	4
4CSC-030-010-06	3	8	55	6	1	4
4CSC-040-005-04	4	10	50	4	0,5	4
4CSC-040-010-04	4	10	50	4	1	4
4CSC-040-005-06	4	10	55	6	0,5	4
4CSC-040-010-06	4	10	55	6	1	4
4CSC-050-005-05	5	13	50	5	0,5	4
4CSC-050-010-05	5	13	50	5	1	4
4CSC-050-005-06	5	13	55	6	0,5	4
4CSC-050-010-06	5	13	55	6	1	4
4CSC-060-005-06	6	13	55	6	0,5	4
4CSC-060-010-06	6	13	55	6	1	4
4CSC-080-005-08	8	19	63	8	0,5	4
4CSC-080-010-08	8	19	63	8	1	4

4CSC

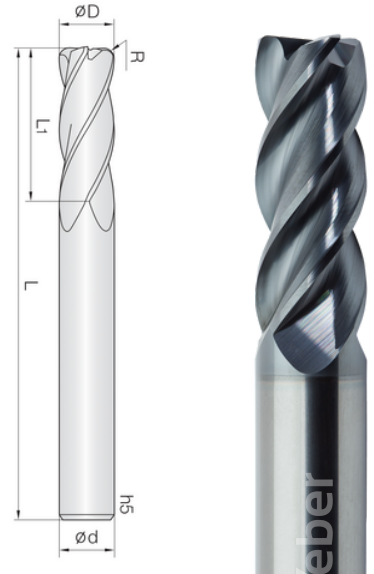
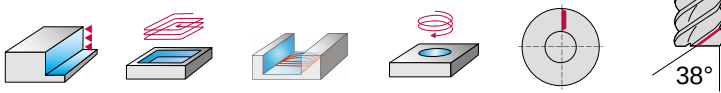
4 Flutes Corner Radius End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CSC-080-015-08	8	19	63	8	1,5	4
4CSC-080-020-08	8	19	63	8	2	4
4CSC-100-005-10	10	22	72	10	0,5	4
4CSC-100-010-10	10	22	72	10	1	4
4CSC-100-015-10	10	22	72	10	1,5	4
4CSC-100-020-10	10	22	72	10	2	4
4CSC-120-005-12	12	26	83	12	0,5	4
4CSC-120-010-12	12	26	83	12	1	4
4CSC-120-015-12	12	26	83	12	1,5	4
4CSC-120-020-12	12	26	83	12	2	4
4CSC-160-005-16	16	40	100	16	0,5	4
4CSC-160-010-16	16	40	100	16	1	4
4CSC-160-015-16	16	40	100	16	1,5	4
4CSC-160-020-16	16	40	100	16	2	4
4CSC-200-005-20	20	40	104	20	0,5	4
4CSC-200-010-20	20	40	104	20	1	4

4CSC

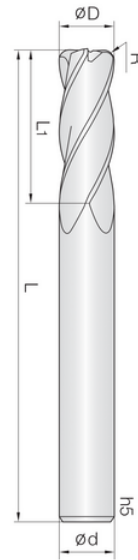
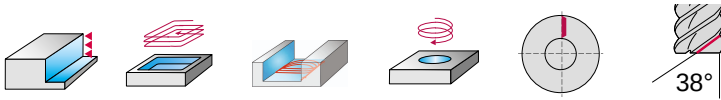
4 Flutes Corner Radius End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CSC-200-015-20	20	40	104	20	1,5	4
4CSC-200-020-20	20	40	104	20	2	4

4CLC

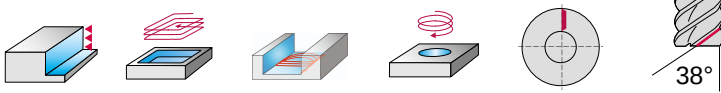
4 Flutes Corner Radius Long End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CLC-030-005-03	3	15	82	3	1,5	4
4CLC-030-010-03	3	15	82	3	2	4
4CLC-030-005-110	3	15	110	3	0,5	4
4CLC-030-010-110	3	15	110	3	1	4
4CLC-040-005-04	4	20	82	4	1,5	4
4CLC-040-010-04	4	20	82	4	2	4
4CLC-040-005-110	4	20	110	4	0,5	4
4CLC-040-010-110	4	20	110	4	1	4
4CLC-050-005-05	5	25	82	5	1,5	4
4CLC-050-010-05	5	25	82	5	2	4
4CLC-050-005-110	5	25	110	5	0,5	4
4CLC-050-010-110	5	25	110	5	1	4
4CLC-060-005-06	6	25	82	6	1,5	4
4CLC-060-010-06	6	25	82	6	2	4
4CLC-060-020-06	6	25	82	6	0,5	4
4CLC-060-005-110	6	30	110	6	1	4

4CLC

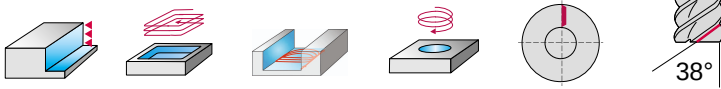
4 Flutes Corner Radius Long End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

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One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CLC-060-010-110	6	30	110	6	1	4
4CLC-060-020-110	6	30	110	6	2	4
4CLC-060-005-150	6	40	150	6	0,5	4
4CLC-060-010-150	6	40	150	6	1	4
4CLC-060-020-150	6	40	150	6	2	4
4CLC-080-005-08	8	30	82	8	0,5	4
4CLC-080-010-08	8	30	82	8	1	4
4CLC-080-020-08	8	30	82	8	2	4
4CLC-080-005-110	8	40	110	8	0,5	4
4CLC-080-010-110	8	40	110	8	1	4
4CLC-080-020-110	8	40	110	8	2	4
4CLC-080-005-150	8	45	150	8	0,5	4
4CLC-080-010-150	8	45	150	8	1	4
4CLC-080-020-150	8	45	150	8	2	4
4CLC-100-005-10	10	45	110	10	0,5	4
4CLC-100-010-10	10	45	110	10	1	4

4CLC

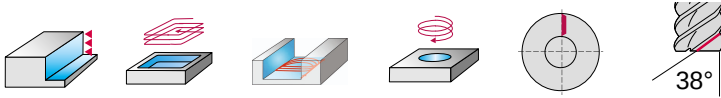
4 Flutes Corner Radius Long End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CLC-100-020-10	10	45	110	10	2	4
4CLC-100-005-150	10	55	150	10	0,5	4
4CLC-100-010-150	10	55	150	10	1	4
4CLC-100-020-150	10	55	150	10	2	4
4CLC-120-005-12	12	45	110	12	0,5	4
4CLC-120-010-12	12	45	110	12	1	4
4CLC-120-020-12	12	45	110	12	2	4
4CLC-120-005-150	12	55	150	12	0,5	4
4CLC-120-010-150	12	55	150	12	1	4
4CLC-120-020-150	12	55	150	12	2	4
4CLC-140-005-14	14	60	150	14	0,5	4
4CLC-140-010-14	14	60	150	14	1	4
4CLC-140-020-14	14	60	150	14	2	4
4CLC-160-005-16	16	70	150	16	0,5	4
4CLC-160-010-16	16	70	150	16	1	4
4CLC-160-020-16	16	70	150	16	2	4

4CLC

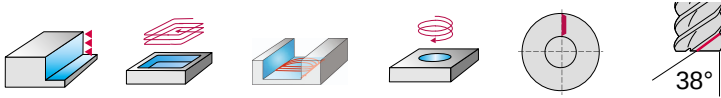
4 Flutes Corner Radius Long End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
4CLC-180-005-18	18	70	150	18	0,5	4
4CLC-180-010-18	18	70	150	18	1	4
4CLC-180-020-18	18	70	150	18	2	4
4CLC-200-005-20	20	70	150	20	0,5	4
4CLC-200-010-20	20	70	150	20	1	4
4CLC-200-020-20	20	70	150	20	2	4

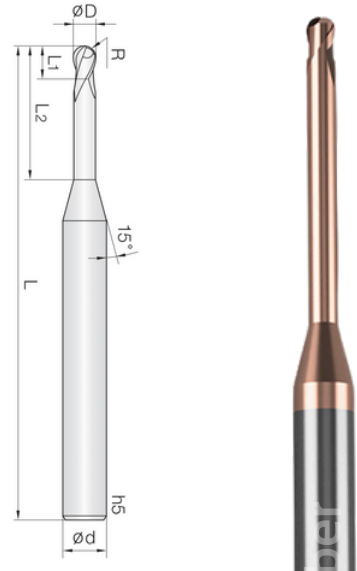
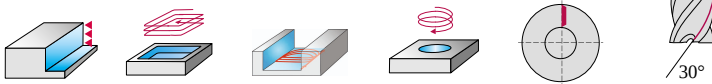
2MCB

2 Flutes High Speed Rib Ball End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L2	L	d	R	Z
2MCB-005-030-04	0,5	1	0,3	50	4	0,25	2
2MCB-010-020-04	1	2	0,8	50	4	0,5	2
2MCB-010-040-04	1	4	0,8	50	4	0,5	2
2MCB-010-060-04	1	6	0,8	50	4	0,5	2
2MCB-010-080-04	1	8	0,8	50	4	0,5	2
2MCB-010-100-04	1	10	0,8	50	4	0,5	2
2MCB-010-120-04	1	12	0,8	50	4	0,5	2
2MCB-010-160-04	1	16	0,8	50	4	0,5	2
2MCB-010-200-04	1	20	0,8	65	4	0,5	2
2MCB-015-040-04	1,5	4	1,35	50	4	0,75	2
2MCB-015-080-04	1,5	8	1,35	50	4	0,75	2
2MCB-015-120-04	1,5	12	1,35	50	4	0,75	2
2MCB-015-160-04	1,5	15	1,35	50	4	0,75	2
2MCB-015-200-04	1,5	20	1,35	65	4	0,75	2
2MCB-020-040-04	2	4	1,7	50	4	1	2
2MCB-020-060-04	2	6	1,7	50	4	1	2

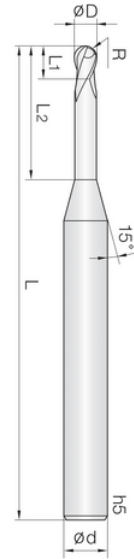
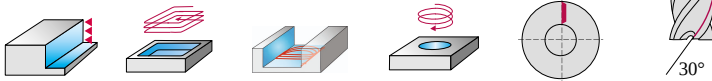
2MCB

2 Flutes High Speed Rib Ball End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L2	L	d	R	Z
2MCB-020-080-04	2	8	1,7	50	4	1	2
2MCB-020-100-04	2	10	1,7	50	4	1	2
2MCB-020-120-04	2	12	1,7	50	4	1	2
2MCB-020-160-04	2	16	1,7	50	4	1	2
2MCB-020-200-04	2	20	1,7	65	4	1	2

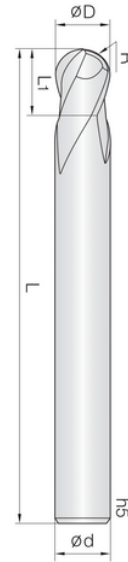
2CSB

2 Flutes Ball High Performance Standard Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
2CSB-030-080-03	3	8	50	3	1,5	2
2CSB-040-100-04	4	10	50	4	2	2
2CSB-050-130-05	5	13	50	5	2,5	2
2CSB-060-140-06	6	14	55	6	3	2
2CSB-080-190-08	8	19	63	8	4	2
2CSB-100-220-10	10	22	72	10	5	2
2CSB-120-260-12	12	26	83	12	6	2
2CSB-140-260-14	14	26	83	14	7	2
2CSB-160-320-16	16	32	92	16	8	2
2CSB-160-320-100	16	32	100	16	8	2
2CSB-180-320-18	18	32	100	18	9	2
2CSB-200-380-20	20	38	104	20	10	2

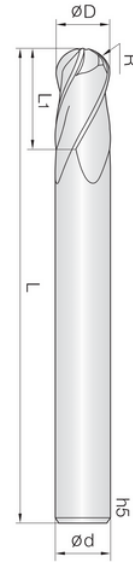
4CSB

4 Flutes Ball High Performance Standard Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
4CSB-030-080-03	3	8	50	3	1,5	4
4CSB-040-100-04	4	10	50	4	2	4
4CSB-050-130-05	5	13	50	5	2,5	4
4CSB-060-140-06	6	14	55	6	3	4
4CSB-080-190-08	8	19	63	8	4	4
4CSB-100-220-10	10	22	72	10	5	4
4CSB-120-260-12	12	26	83	12	6	4
4CSB-140-260-14	14	26	83	14	7	4
4CSB-160-320-16	16	32	92	16	8	4
4CSB-160-320-100	16	32	100	16	8	4
4CSB-180-320-18	18	32	100	18	9	4
4CSB-200-380-20	20	38	104	20	10	4

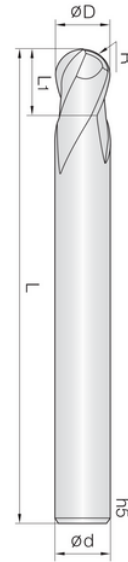
2CLB

2 Flutes Ball High Performance Long Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
2CLB-030-120-03	3	12	82	3	1,5	2
2CLB-030-120-110	3	12	110	3	1,5	2
2CLB-040-120-04	4	12	82	4	2	2
2CLB-040-120-110	4	12	110	4	2	2
2CLB-050-200-05	5	20	82	5	2,5	2
2CLB-050-200-110	5	20	110	5	2,5	2
2CLB-060-250-06	6	25	110	6	3	2
2CLB-060-250-150	6	25	150	6	3	2
2CLB-080-350-08	8	35	110	8	4	2
2CLB-080-350-150	8	35	150	8	4	2
2CLB-100-400-10	10	40	110	10	5	2
2CLB-100-400-150	10	40	150	10	5	2
2CLB-120-400-12	12	40	110	12	6	2
2CLB-120-350-150	12	35	150	12	6	2
2CLB-140-350-150	14	35	150	14	7	2
2CLB-160-500-150	16	50	150	16	8	2

Solid Carbide End Mills

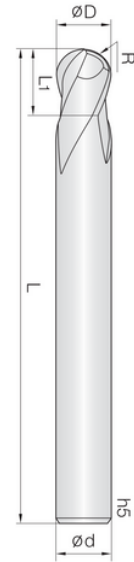
2CLB

2 Flutes Ball High Performance Long Length End Mills

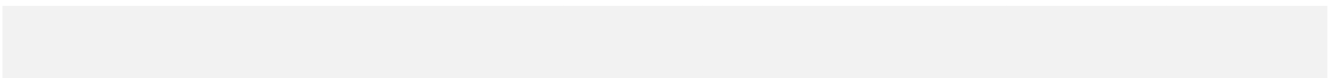
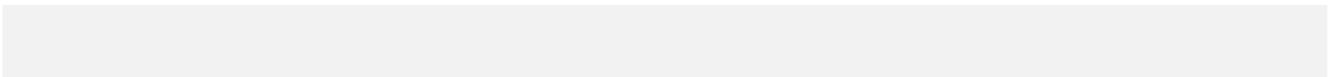
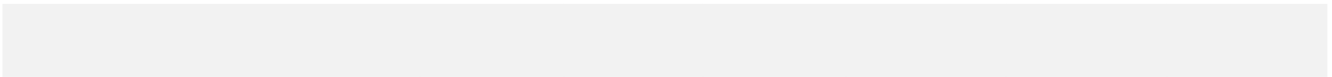
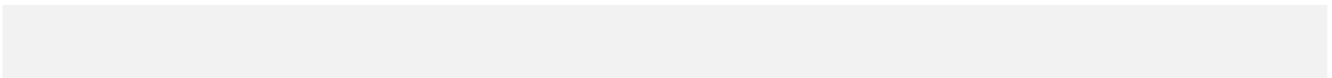
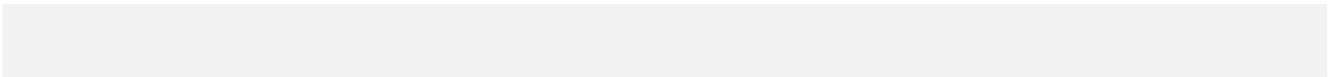
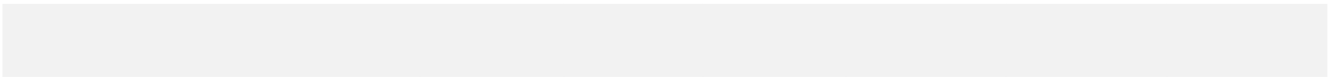
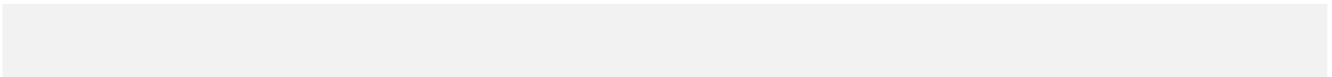
Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
2CLB-180-500-150	18	50	150	3	9	2
2CLB-200-500-150	20	50	150	4	10	2



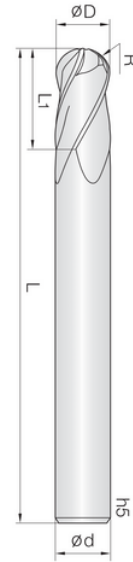
4CLB

4 Flutes Ball High Performance Long Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
4CLB-030-120-03	3	12	82	3	1,5	4
4CLB-030-120-110	3	12	110	3	1,5	4
4CLB-040-120-04	4	12	82	4	2	4
4CLB-040-120-110	4	12	110	4	2	4
4CLB-050-200-05	5	20	82	5	2,5	4
4CLB-050-200-110	5	20	110	5	2,5	4
4CLB-060-250-06	6	25	110	6	3	4
4CLB-060-250-150	6	25	150	6	3	4
4CLB-080-350-08	8	35	110	8	4	4
4CLB-080-350-150	8	35	150	8	4	4
4CLB-100-400-10	10	40	110	10	5	4
4CLB-100-400-150	10	40	150	10	5	4
4CLB-120-400-12	12	40	110	12	6	4
4CLB-120-350-150	12	35	150	12	6	4
4CLB-140-350-150	14	35	150	14	7	4
4CLB-160-500-150	16	50	150	16	8	4

Solid Carbide End Mills

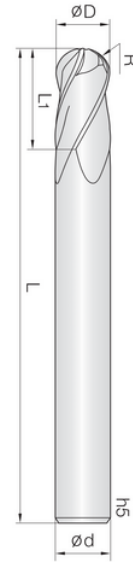
4CLB

4 Flutes Ball High Performance Long Length End Mills

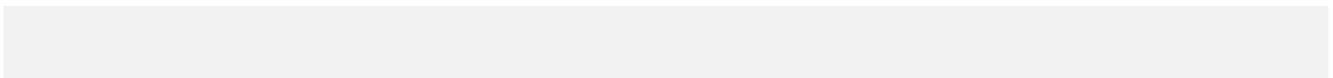
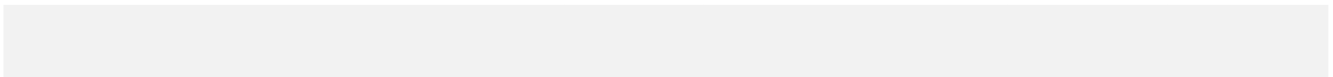
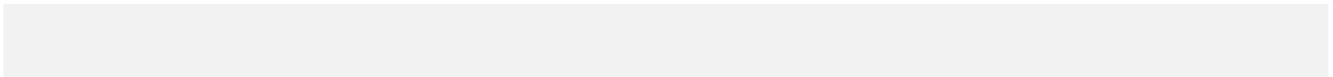
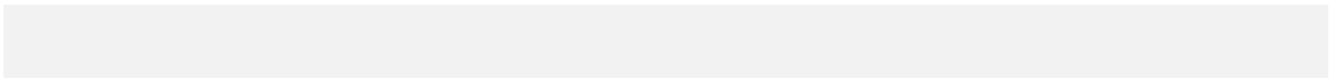
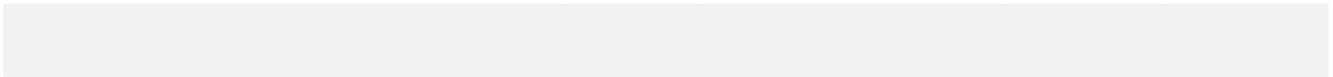
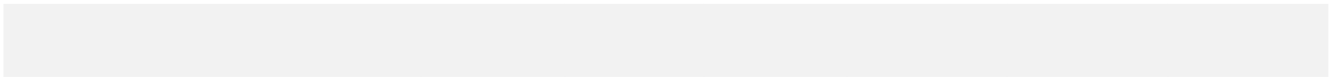
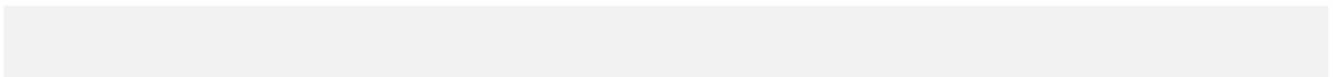
Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	L1	L	d	R	Z
4CLB-180-500-150	18	50	150	3	9	4
4CLB-200-500-150	20	50	150	4	10	4



4MSE

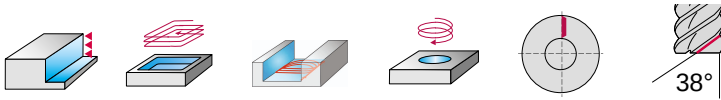
4 Flutes Stainless Steel Standard Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Strong design for protection against chattering.

Excellent work surface finish by 4 flute and deep chip pocket.



ORDER CODE	D	L1	L	d	Z
4MSE-030-080-060	3	8	55	6	4
4MSE-040-100-060	4	10	55	6	4
4MSE-050-130-060	5	13	55	6	4
4MSE-060-130-060	6	14	55	6	4
4MSE-080-190-08	8	19	63	8	4
4MSE-100-220-10	10	22	72	10	4
4MSE-120-300-120	12	30	83	12	4
4MSE-140-300-14	14	30	83	14	4
4MSE-160-400-16	16	40	100	16	4
4MSE-180-400-18	18	40	100	18	4
4MSE-200-450-20	20	45	104	20	4

4MLE

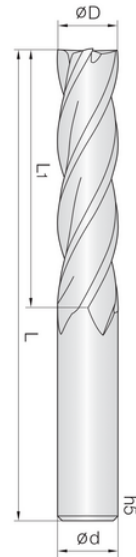
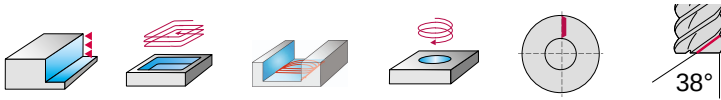
4 Flutes Stainless Steel Long Length End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Strong design for protection against chattering.

Excellent work surface finish by 4 flute and deep chip pocket.



ORDER CODE

D

L1

L

d

Z

4MLE-060-300-06

6

30

100

6

4

4MLE-080-400-08

8

40

100

8

4

4MLE-100-400-10

10

40

100

10

4

4MLE-100-650-10

10

65

150

10

4

4MLE-120-450-12

12

45

100

12

4

4MLE-120-700-12

12

70

150

12

4

4MLE-160-650-16

16

65

150

16

4

4MLE-200-800-20

20

80

150

20

4

4DSE

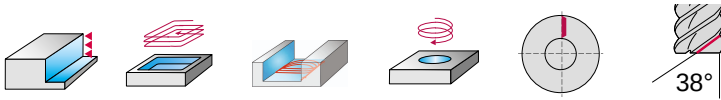
4 Flutes High Performance Double Armor End Mills

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	Z
4DSE-030-080-06	3	8	55	6	4
4DSE-040-100-06	4	10	55	6	4
4DSE-050-130-06	5	13	55	6	4
4DSE-060-130-06	6	13	55	6	4
4DSE-080-190-08	8	19	63	8	4
4DSE-100-220-10	10	22	72	10	4
4DSE-120-300-12	12	30	82	12	4
4DSE-140-300-14	14	30	82	14	4
4DSE-160-320-16	16	32	92	16	4
4DSE-160-400-16	16	40	100	16	4
4DSE-180-400-18	18	40	100	18	4
4DSE-200-400-20	20	40	104	20	4

4CHE

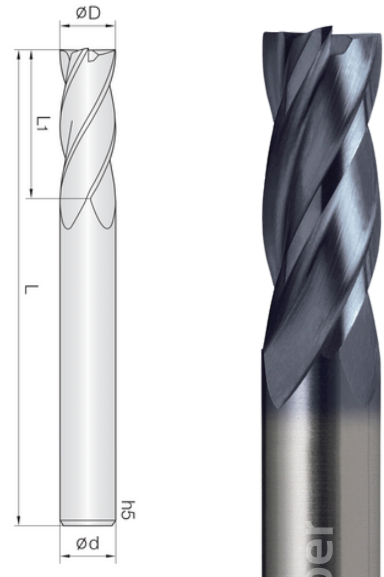
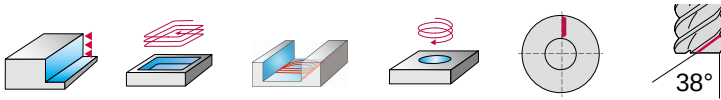
4 Flutes High Performance Standard Length End Mills 50 HRC

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	Z
4CHE-030-080-06	3	8	55	6	4
4CHE-040-100-06	4	10	55	6	4
4CHE-050-130-06	5	13	55	6	4
4CHE-060-130-06	6	13	55	6	4
4CHE-080-190-08	8	19	63	8	4
4CHE-100-220-10	10	22	72	10	4
4CHE-120-300-12	12	30	82	12	4
4CHE-140-300-14	14	30	82	14	4
4CHE-160-300-16	16	40	100	16	4
4CHE-200-400-20	20	40	104	20	4

4SXE

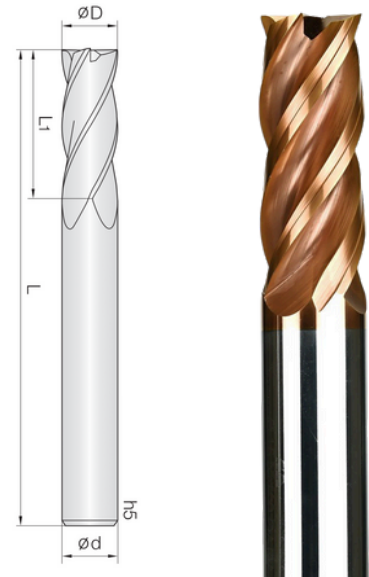
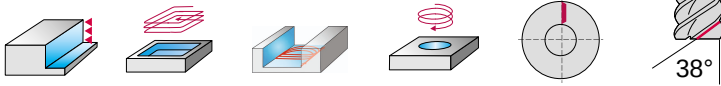
4 Flutes High Performance Standart Length End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4SXE-010-030-04	1	3	50	4	4
4SXE-010-030-06	1	3	50	6	4
4SXE-015-040-04	1,5	4	50	4	4
4SXE-015-040-06	1,5	4	50	6	4
4SXE-020-060-04	2	6	50	4	4
4SXE-020-060-06	2	6	50	6	4
4SXE-025-080-04	2,5	8	50	4	4
4SXE-025-080-06	2,5	8	50	6	4
4SXE-030-080-03	3	8	50	3	4
4SXE-030-080-04	3	8	50	4	4
4SXE-030-080-06	3	8	50	6	4
4SXE-030-150-03	3	15	50	3	4
4SXE-030-080-03	3	8	100	3	4
4SXE-035-110-04	3,5	11	50	4	4
4SXE-035-110-06	3,5	11	50	6	4
4SXE-040-110-04	4	11	50	4	4

4SXE

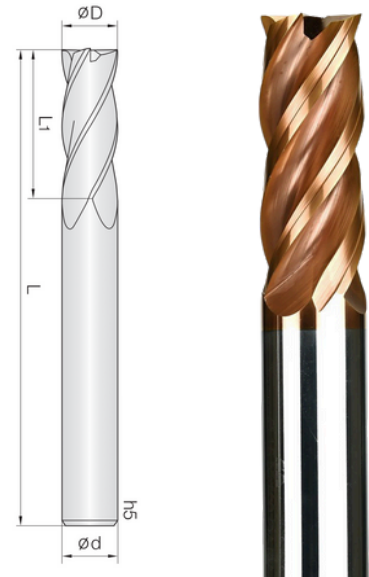
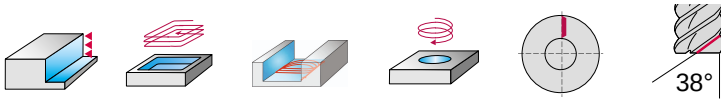
4 Flutes High Performance Standart Length End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4SXE-040-110-06	4	11	50	6	4
4SXE-040-200-04	4	20	75	4	4
4SXE-040-04-100	4	20	100	4	4
4SXE-050-130-05	5	13	50	5	4
4SXE-050-130-06	5	13	50	6	4
4SXE-050-200-05	5	20	75	5	4
4SXE-050-250-06	5	25	75	6	4
4SXE-050-05-100	5	20	100	5	4
4SXE-060-150-06	6	15	50	6	4
4SXE-060-200-06	6	20	75	6	4
4SXE-060-06-100	6	25	100	6	4
4SXE-060-06-150	6	40	150	6	4
4SXE-070-200-08	7	20	60	8	4
4SXE-080-200-08	8	20	60	8	4
4SXE-080-08-64	8	20	64	8	4
4SXE-080-250-08	8	25	75	8	4

4SXE

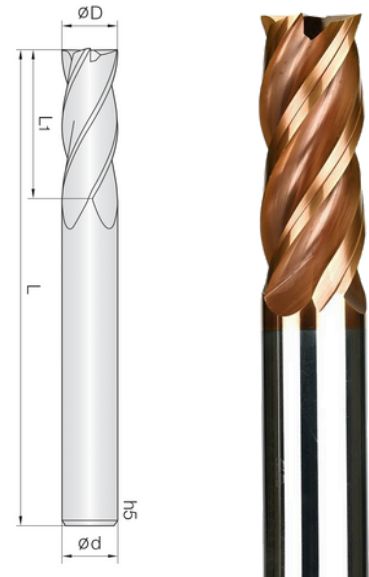
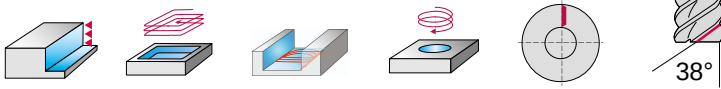
4 Flutes High Performance Standart Length End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	Z
4SXE-080-08-100	8	40	100	8	4
4SXE-080-08-150	8	40	150	8	4
4SXE-090-250-10	9	25	75	10	4
4SXE-100-250-10	10	25	75	10	4
4SXE-100-400-10	10	40	100	10	4
4SXE-100-500-10	10	50	150	10	4
4SXE-110-250-12	11	25	75	12	4
4SXE-120-12-75	12	30	75	12	4
4SXE-120-300-12	12	30	83	12	4
4SXE-120-450-12	12	45	100	12	4
4SXE-120-500-12	12	50	150	12	4
4SXE-130-400-14	13	40	100	14	4
4SXE-140-400-14	14	40	80	14	4
4SXE-140-500-14	14	50	100	14	4
4SXE-140-14-150	14	50	150	14	4
4SXE-150-450-16	15	45	100	16	4

4SXE

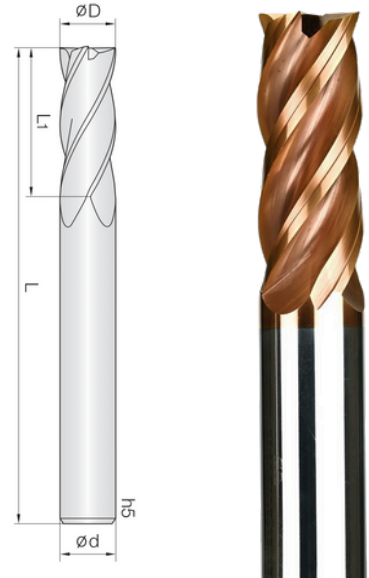
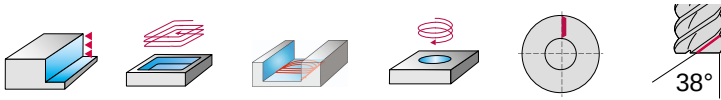
4 Flutes High Performance Standart Length End Mills 55 HRC

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ORDER CODE	D	L1	L	d	Z
4SXE-160-450-16	16	45	100	16	4
4SXE-160-500-16	16	50	150	16	4
4SXE-180-450-18	18	45	100	18	4
4SXE-180-500-18	18	50	150	18	4
4SXE-200-450-20	20	45	100	20	4
4SXE-200-750-20	20	75	150	20	4



4SWE

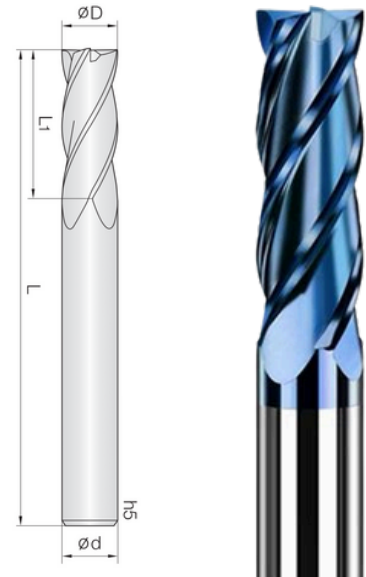
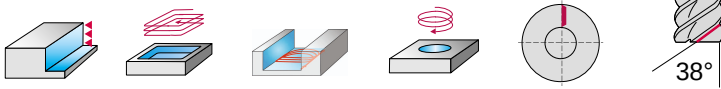
4 Flutes High Performance End Mills for Hardened Steels 68 HRC

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ORDER CODE	D	L1	L	d	Z
4SWE-010-030-04	1	3	50	4	4
4SWE-010-030-06	1	3	50	6	4
4SWE-015-040-04	1,5	4	50	4	4
4SWE-015-040-06	1,5	4	50	6	4
4SWE-020-060-04	2	6	50	4	4
4SWE-020-060-06	2	6	50	6	4
4SWE-025-080-04	2,5	8	50	4	4
4SWE-025-080-06	2,5	8	50	6	4
4SWE-030-080-03	3	8	50	3	4
4SWE-030-080-04	3	8	50	4	4
4SWE-030-080-06	3	8	50	6	4
4SWE-030-150-03	3	15	50	3	4
4SWE-030-080-03	3	8	100	3	4
4SWE-035-110-04	3,5	11	50	4	4
4SWE-035-110-06	3,5	11	50	6	4
4SWE-040-110-04	4	11	50	4	4

4SWE

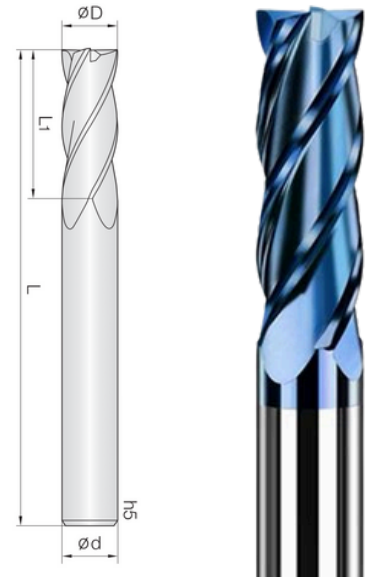
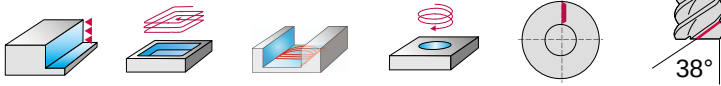
4 Flutes High Performance End Mills for Hardened Steels 68 HRC

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ORDER CODE	D	L1	L	d	Z
4SWE-040-110-06	4	11	50	6	4
4SWE-040-200-04	4	20	75	4	4
4SWE-040-04-100	4	20	100	4	4
4SWE-050-130-05	5	13	50	5	4
4SWE-050-130-06	5	13	50	6	4
4SWE-050-200-05	5	20	75	5	4
4SWE-050-250-06	5	25	75	6	4
4SWE-050-05-100	5	20	100	5	4
4SWE-060-150-06	6	15	50	6	4
4SWE-060-200-06	6	20	75	6	4
4SWE-060-06-100	6	25	100	6	4
4SWE-060-06-150	6	40	150	6	4
4SWE-070-200-08	7	20	60	8	4
4SWE-080-200-08	8	20	60	8	4
4SWE-080-08-64	8	20	64	8	4
4SWE-080-250-08	8	25	75	8	4

4SWE

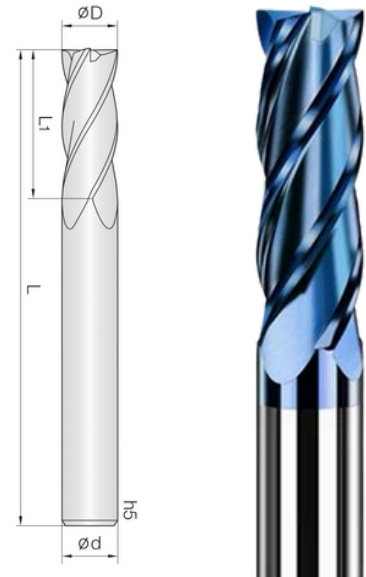
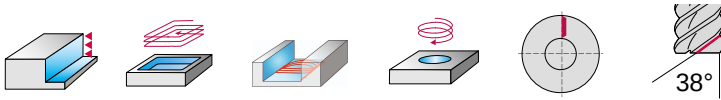
4 Flutes High Performance End Mills for Hardened Steels 68 HRC

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ORDER CODE	D	L1	L	d	Z
4SWE-080-08-100	8	40	100	8	4
4SWE-080-08-150	8	40	150	8	4
4SWE-090-250-10	9	25	75	10	4
4SWE-100-250-10	10	25	75	10	4
4SWE-100-400-10	10	40	100	10	4
4SWE-100-500-10	10	50	150	10	4
4SWE-110-250-12	11	25	75	12	4
4SWE-120-12-75	12	30	75	12	4
4SWE-120-300-12	12	30	83	12	4
4SWE-120-450-12	12	45	100	12	4
4SWE-120-500-12	12	50	150	12	4
4SWE-130-400-14	13	40	100	14	4
4SWE-140-400-14	14	40	80	14	4
4SWE-140-500-14	14	50	100	14	4
4SWE-140-14-150	14	50	150	14	4
4SWE-150-450-16	15	45	100	16	4

4SWE

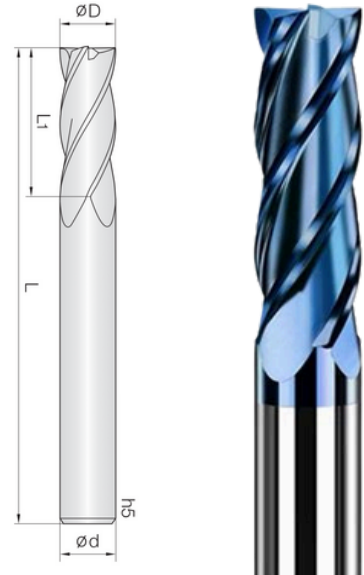
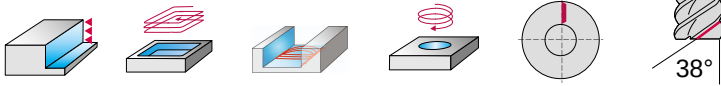
4 Flutes High Performance End Mills for Hardened Steels 68 HRC

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ORDER CODE	D	L1	L	d	Z
4SWE-160-450-16	16	45	100	16	4
4SWE-160-500-16	16	50	150	16	4
4SWE-180-450-18	18	45	100	18	4
4SWE-180-500-18	18	50	150	18	4
4SWE-200-450-20	20	45	100	20	4
4SWE-200-750-20	20	75	150	20	4

4SXC

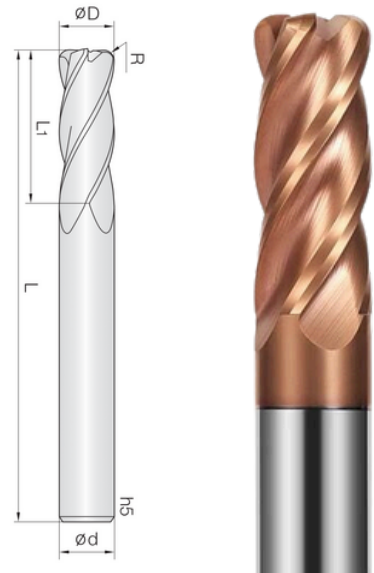
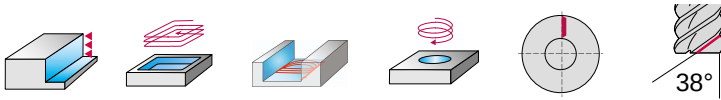
4 Flutes Corner Radius End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

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ORDER CODE	D	L1	L	d	R	Z
4XSC-020-005-04	2	6	50	4	0,5	4
4XSC-020-005-06	2	6	50	6	0,5	4
4XSC-030-005-03	3	8	50	3	0,5	4
4XSC-030-010-03	3	8	50	3	1	4
4XSC-030-005-04	3	8	50	4	0,5	4
4XSC-030-010-04	3	8	50	4	1	4
4XSC-030-005-06	3	8	50	6	0,5	4
4XSC-030-010-06	3	8	50	6	1	4
4XSC-030-005-75	3	8	75	3	0,5	4
4XSC-030-010-75	3	8	75	3	1	4
4XSC-030-005-75	3	5	75	4	0,5	4
4XSC-030-005-100	3	8	100	3	0,5	4
4XSC-030-010-100	3	8	100	3	1	4
4XSC-040-005-04	4	11	50	4	0,5	4
4XSC-040-010-04	4	11	50	4	1	4
4XSC-040-005-06	4	11	50	6	0,5	4

4SXC

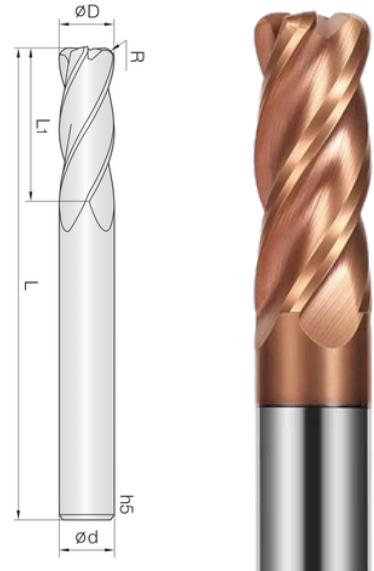
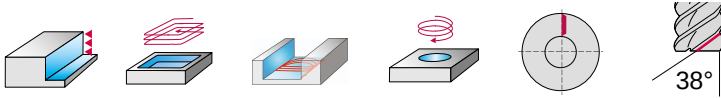
4 Flutes Corner Radius End Mills 55 HRC

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ORDER CODE	D	L1	L	d	R	Z
4SXC-040-010-06	4	11	50	6	1	4
4SXC-040-005-75	4	11	75	4	0,5	4
4SXC-040-010-75	4	11	75	4	1	4
4SXC-040-005-100	4	11	100	4	0,5	4
4SXC-040-010-100	4	11	100	4	1	4
4SXC-050-005-05	5	13	50	5	0,5	4
4SXC-050-010-05	5	13	50	5	1	4
4SXC-050-005-06	5	13	50	6	0,5	4
4SXC-050-010-06	5	13	50	6	1	4
4SXC-050-005-75	5	13	75	5	0,5	4
4SXC-050-010-75	5	13	75	5	1	4
4SXC-050-005-100	5	13	100	5	0,5	4
4SXC-050-010-100	5	13	100	5	1	4
4SXC-060-005-06	6	15	50	6	0,5	4
4SXC-060-010-06	6	15	50	6	1	4
4SXC-060-005-75	6	15	75	6	0,5	4

4SXC

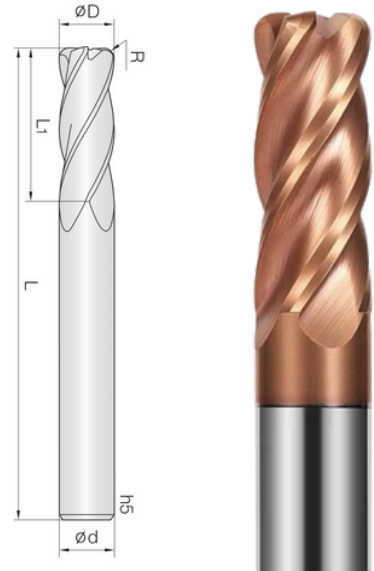
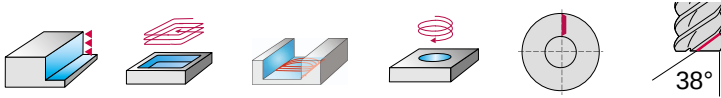
4 Flutes Corner Radius End Mills 55 HRC

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ORDER CODE	D	L1	L	d	R	Z
4SXC-060-010-75	6	15	75	6	1	4
4SXC-060-005-100	6	15	100	6	0,5	4
4SXC-060-010-100	6	15	100	6	1	4
4SXC-060-005-150	6	15	150	6	0,5	4
4SXC-060-010-150	6	15	150	6	1	4
4SXC-070-005-08	7	20	60	8	0,5	4
4SXC-070-010-08	7	20	60	8	1,0	4
4SXC-080-005-08	8	20	60	8	0,5	4
4SXC-080-010-08	8	20	60	8	1	4
4SXC-080-020-08	8	20	60	8	2	4
4SXC-080-005-64	8	20	64	8	0,5	4
4SXC-080-010-64	8	20	64	8	1	4
4SXC-080-005-75	8	20	75	8	0,5	4
4SXC-080-010-75	8	20	75	8	1	4
4SXC-080-005-100	8	20	100	8	0,5	4
4SXC-080-010-100	8	20	100	8	1	4

4SXC

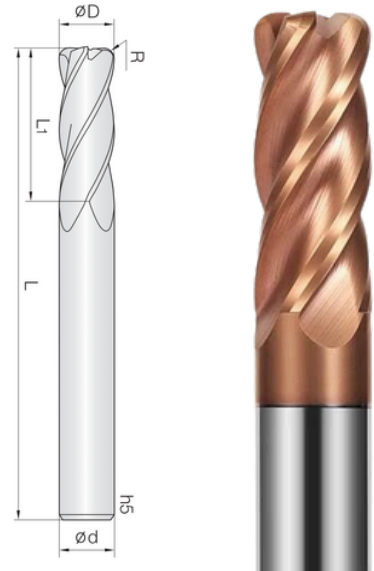
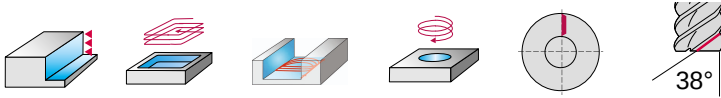
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ORDER CODE	D	L1	L	d	R	Z
4SXC-080-005-150	8	20	150	8	0,5	4
4SXC-080-010-150	8	20	150	8	1	4
4SXC-090-005-10	9	25	75	10	0,5	4
4SXC-090-010-10	9	25	75	10	1	4
4SXC-100-005-10	10	25	75	10	0,5	4
4SXC-100-010-10	10	25	75	10	1	4
4SXC-100-020-10	10	20	75	10	2	4
4SXC-100-005-100	10	25	100	10	0,5	4
4SXC-100-010-100	10	25	100	10	1	4
4SXC-100-005-150	10	25	150	10	0,5	4
4SXC-100-010-150	10	25	150	10	1	4
4SXC-120-005-75	12	30	75	12	0,5	4
4SXC-120-010-75	12	30	75	12	1	4
4SXC-120-020-75	12	20	75	12	2	4
4SXC-120-005-12	12	20	83	12	0,5	4
4SXC-120-010-12	12	20	83	12	1	4

4SXC

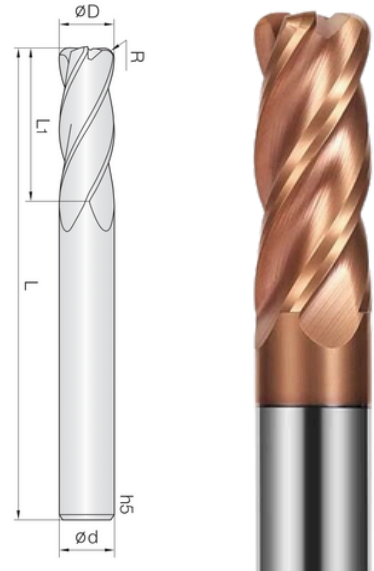
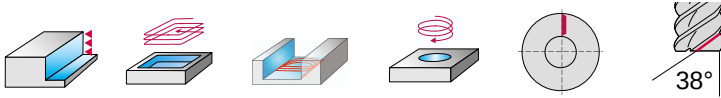
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ORDER CODE	D	L1	L	d	R	Z
4SXC-120-005-100	12	30	100	12	0,5	4
4SXC-120-010-100	12	30	100	12	1	4
4SXC-120-005-150	12	30	150	12	0,5	4
4SXC-120-010-150	12	30	150	12	1	4
4SXC-140-005-14	14	30	80	14	0,5	4
4SXC-140-010-14	14	30	80	14	1	4
4SXC-140-005-100	14	30	100	14	0,5	4
4SXC-140-010-100	14	30	100	14	1	4
4SXC-140-005-150	14	30	150	14	0,5	4
4SXC-140-010-150	14	30	150	14	1	4
4SXC-160-005-16	16	30	100	16	0,5	4
4SXC-160-010-16	16	30	100	16	1	4
4SXC-160-005-150	16	30	150	16	0,5	4
4SXC-160-010-150	16	30	150	16	1	4
4SXC-180-005-18	18	30	100	18	0,5	4
4SXC-180-010-18	18	30	100	18	1	4

4SXC

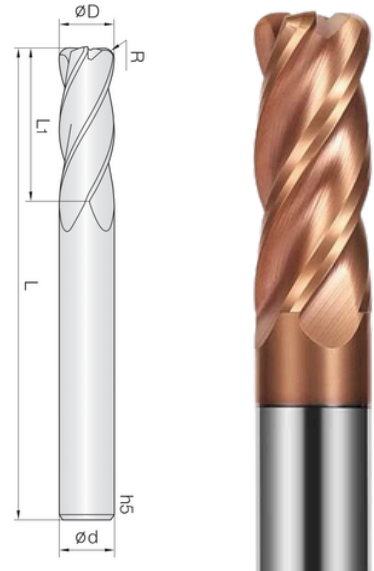
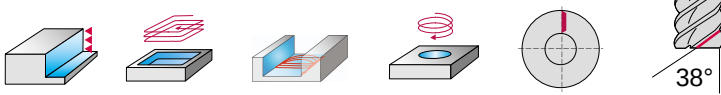
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ORDER CODE	D	L1	L	d	R	Z
4SXC-180-005-150	18	30	150	18	0,5	4
4SXC-180-010-150	18	30	150	18	1	4
4SXC-200-005-20	20	30	100	20	0,5	4
4SXC-200-010-20	20	30	100	20	1	4
4SXC-200-005-150	20	30	150	20	0,5	4
4SXC-200-010-150	20	30	150	20	1	4

4SWC

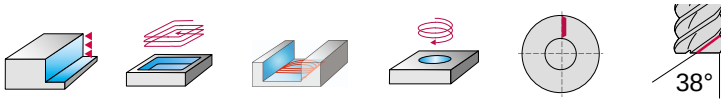
4 Flutes Corner Radius End Mills for Hardened Steels 68 HRC

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ORDER CODE	D	L1	L	d	R	Z
4SWC-020-005-04	2	6	50	4	0,5	4
4SWC-020-005-06	2	6	50	6	0,5	4
4SWC-030-005-03	3	8	50	3	0,5	4
4SWC-030-010-03	3	8	50	3	1	4
4SWC-030-005-04	3	8	50	4	0,5	4
4SWC-030-010-04	3	8	50	4	1	4
4SWC-030-005-06	3	8	50	6	0,5	4
4SWC-030-010-06	3	8	50	6	1	4
4SWC-030-005-75	3	8	75	3	0,5	4
4SWC-030-010-75	3	8	75	3	1	4
4SWC-030-005-75	3	5	75	4	0,5	4
4SWC-030-005-100	3	8	100	3	0,5	4
4SWC-030-010-100	3	8	100	3	1	4
4SWC-040-005-04	4	11	50	4	0,5	4
4SWC-040-010-04	4	11	50	4	1	4
4SWC-040-005-06	4	11	50	6	0,5	4

4SWC

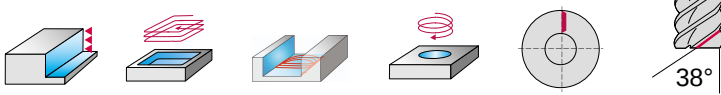
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ORDER CODE	D	L1	L	d	R	Z
4SWC-040-010-06	4	11	50	6	1	4
4SWC-040-005-75	4	11	75	4	0,5	4
4SWC-040-010-75	4	11	75	4	1	4
4SWC-040-005-100	4	11	100	4	0,5	4
4SWC-040-010-100	4	11	100	4	1	4
4SWC-050-005-05	5	13	50	5	0,5	4
4SWC-050-010-05	5	13	50	5	1	4
4SWC-050-005-06	5	13	50	6	0,5	4
4SWC-050-010-06	5	13	50	6	1	4
4SWC-050-005-75	5	13	75	5	0,5	4
4SWC-050-010-75	5	13	75	5	1	4
4SWC-050-005-100	5	13	100	5	0,5	4
4SWC-050-010-100	5	13	100	5	1	4
4SWC-060-005-06	6	15	50	6	0,5	4
4SWC-060-010-06	6	15	50	6	1	4
4SWC-060-005-75	6	15	75	6	0,5	4

4SWC

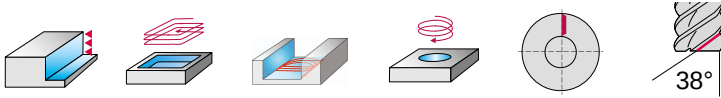
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ORDER CODE	D	L1	L	d	R	Z
4SWC-060-010-75	6	15	75	6	1	4
4SWC-060-005-100	6	15	100	6	0,5	4
4SWC-060-010-100	6	15	100	6	1	4
4SWC-060-005-150	6	15	150	6	0,5	4
4SWC-060-010-150	6	15	150	6	1	4
4SWC-070-005-08	7	20	60	8	0,5	4
4SWC-070-010-08	7	20	60	8	1,0	4
4SWC-080-005-08	8	20	60	8	0,5	4
4SWC-080-010-08	8	20	60	8	1	4
4SWC-080-020-08	8	20	60	8	2	4
4SWC-080-005-64	8	20	64	8	0,5	4
4SWC-080-010-64	8	20	64	8	1	4
4SWC-080-005-75	8	20	75	8	0,5	4
4SWC-080-010-75	8	20	75	8	1	4
4SWC-080-005-100	8	20	100	8	0,5	4
4SWC-080-010-100	8	20	100	8	1	4

4SWC

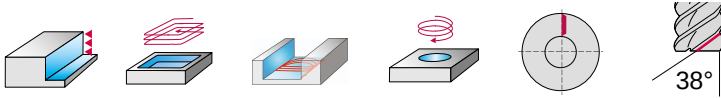
4 Flutes Corner Radius End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	R	Z
4SWC-080-005-150	8	20	150	8	0,5	4
4SWC-080-010-150	8	20	150	8	1	4
4SWC-090-005-10	9	25	75	10	0,5	4
4SWC-090-010-10	9	25	75	10	1	4
4SWC-100-005-10	10	25	75	10	0,5	4
4SWC-100-010-10	10	25	75	10	1	4
4SWC-100-020-10	10	20	75	10	2	4
4SWC-100-005-100	10	25	100	10	0,5	4
4SWC-100-010-100	10	25	100	10	1	4
4SWC-100-005-150	10	25	150	10	0,5	4
4SWC-100-010-150	10	25	150	10	1	4
4SWC-120-005-75	12	30	75	12	0,5	4
4SWC-120-010-75	12	30	75	12	1	4
4SWC-120-020-75	12	20	75	12	2	4
4SWC-120-005-12	12	20	83	12	0,5	4
4SWC-120-010-12	12	20	83	12	1	4

4SWC

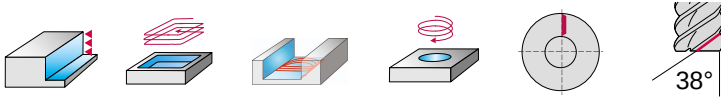
4 Flutes Corner Radius End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	R	Z
4SWC-120-005-100	12	30	100	12	0,5	4
4SWC-120-010-100	12	30	100	12	1	4
4SWC-120-005-150	12	30	150	12	0,5	4
4SWC-120-010-150	12	30	150	12	1	4
4SWC-140-005-14	14	30	80	14	0,5	4
4SWC-140-010-14	14	30	80	14	1	4
4SWC-140-005-100	14	30	100	14	0,5	4
4SWC-140-010-100	14	30	100	14	1	4
4SWC-140-005-150	14	30	150	14	0,5	4
4SWC-140-010-150	14	30	150	14	1	4
4SWC-160-005-16	16	30	100	16	0,5	4
4SWC-160-010-16	16	30	100	16	1	4
4SWC-160-005-150	16	30	150	16	0,5	4
4SWC-160-010-150	16	30	150	16	1	4
4SWC-180-005-18	18	30	100	18	0,5	4
4SWC-180-010-18	18	30	100	18	1	4

4SWC

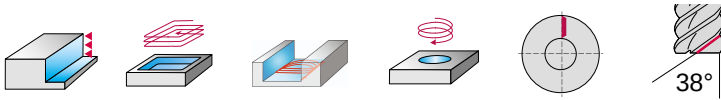
4 Flutes Corner Radius End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	L1	L	d	R	Z
4SWC-180-005-150	18	30	150	18	0,5	4
4SWC-180-010-150	18	30	150	18	1	4
4SWC-200-005-20	20	30	100	20	0,5	4
4SWC-200-010-20	20	30	100	20	1	4
4SWC-200-005-150	20	30	150	20	0,5	4
4SWC-200-010-150	20	30	150	20	1	4

5CHE

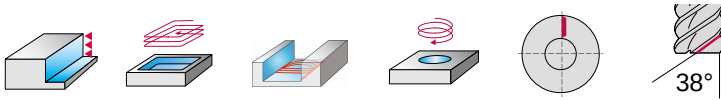
5 Flutes High Performance Standard Length End Mills 50 HRC

Good wear resistance by high quality AlCrXN coating.

High precise edge tolerance.

Reinforced edge design for preventing edge chipping.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	Z
5CHE-030-080-06	3	8	55	6	5
5CHE-040-100-06	4	10	55	6	5
5CHE-050-130-06	5	13	55	6	5
5CHE-060-130-06	6	13	55	6	5
5CHE-080-190-08	8	19	63	8	5
5CHE-100-220-10	10	22	72	10	5
5CHE-120-300-12	12	30	82	12	5
5CHE-140-300-14	14	30	82	14	5
5CHE-160-300-16	16	40	100	16	5
5CHE-200-400-20	20	40	104	20	5

6MSE

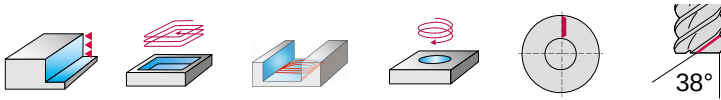
6 Flutes High Performance End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Strong design for protection against chattering.

Excellent work surface finish by 4 flute and deep chip pocket.

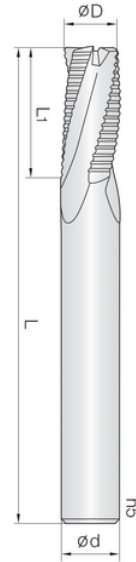
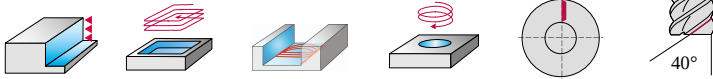


ORDER CODE	D	l	L	d	Z
6MSE-060-130-06	6	13	55	6	6
6MSE-080-190-08	8	19	63	8	6
6MSE-100-190-10	10	22	72	10	6
6MSE-120-300-12	12	30	82	12	6
6MSE-140-300-14	14	30	82	14	6
6MSE-160-400-16	16	40	100	16	6
6MSE-200-400-20	20	40	104	20	6

4CRE

4 Flutes Roughing End Mills

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.
Reduce machining time by excellent chip control.
Maximize work efficiency by high speed machining



ORDER CODE	D	L1	L	d	Z
4CRE-060-140-06	6	14	57	6	4
4CRE-080-190-08	8	19	63	8	4
4CRE-100-220-10	10	22	72	10	4
4CRE-120-300-10	12	30	83	12	4
4CRE-140-300-14	14	30	83	14	4
4CRE-160-400-16	16	40	100	16	4
4CRE-180-400-18	18	40	100	18	4
4CRE-200-380-20	20	38	104	20	4

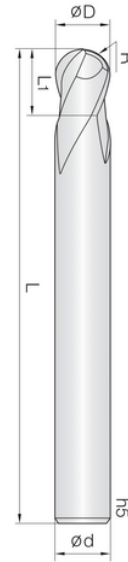
2SXB

2 Flutes Ball End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SXB-010-030-04	1	3	50	4	0,5	2
2SXB-010-030-06	1	3	50	6	0,5	2
2SXB-015-040-03	1,5	6	50	3	0,75	2
2SXB-015-040-04	1,5	4	50	4	0,75	2
2SXB-015-040-06	1,5	4	50	6	0,75	2
2SXB-020-060-04	2	6	50	4	1	2
2SXB-020-060-06	2	6	50	6	1	2
2SXB-025-080-04	2,5	8	50	4	1,25	2
2SXB-025-060-06	2,5	8	50	6	1,25	2
2SXB-030-080-03	3	8	50	3	1,5	2
2SXB-030-080-04	3	8	50	4	1,5	2
2SXB-030-080-06	3	8	50	6	1,5	2
2SXB-030-03-75	3	6	75	3	1,5	2
2SXB-030-03-100	3	6	100	3	1,5	2
2SXB-035-110-04	3,5	11	50	4	1,75	2
2SXB-035-110-06	3,5	11	50	6	1,75	2

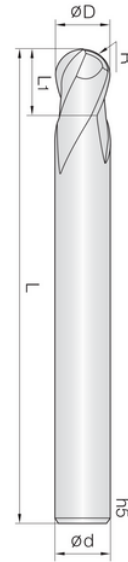
2SXB

2 Flutes Ball End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SXB-040-110-04	4	11	50	4	2	2
2SXB-040-110-06	4	11	50	6	2	2
2SXB-040-04-75	4	20	75	4	2	2
2SXB-040-04-100	4	20	100	4	2	2
2SXB-050-130-05	5	13	50	5	2,5	2
2SXB-050-130-06	5	13	50	6	2,5	2
2SXB-050-05-75	5	20	75	5	2,5	2
2SXB-050-06-75	5	13	75	6	2,5	2
2SXB-050-05-100	5	20	100	5	2,5	2
2SXB-060-150-06	6	15	50	6	3	2
2SXB-060-200-06	6	20	75	6	3	2
2SXB-060-250-06	6	25	100	6	3	2
2SXB-060-400-06	6	40	150	6	3	2
2SXB-070-200-08	7	20	60	8	3,5	2
2SXB-080-200-08	8	20	60	8	4	2
2SXB-080-250-08	8	25	75	8	4	2

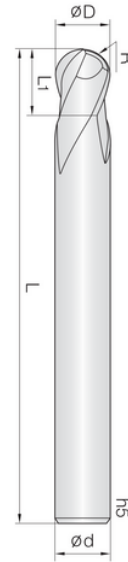
2SXB

2 Flutes Ball End Mills 55 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

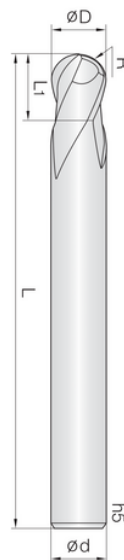
Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SXB-080-120-08	8	12	100	8	4	2
2SXB-080-400-08	8	40	150	8	4	2
2SXB-090-250-10	9	25	75	10	4,5	2
2SXB-100-250-10	10	25	75	10	5	2
2SXB-100-400-10	10	40	100	10	5	2
2SXB-100-500-10	10	50	150	10	5	2
2SXB-120-300-12	12	30	75	12	6	2
2SXB-120-250-12	12	25	83	12	6	2
2SXB-120-450-12	12	45	100	12	6	2
2SXB-120-500-12	12	50	150	12	6	2
2SXB-140-400-14	14	40	80	14	7	2
2SXB-140-500-14	14	50	100	14	7	2
2SXB-140-14-150	14	50	150	14	7	2
2SXB-160-450-16	16	45	100	16	8	2
2SXB-160-500-16	16	50	150	16	8	2
2SXB-180-450-18	18	45	100	18	9	2

2SXB

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.
Very nice work surface finish.



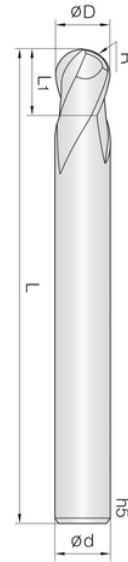
2SWB

2 Flutes Ball End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality NANO BLUE coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SWB-010-030-04	1	3	50	4	0,5	2
2SWB-010-030-06	1	3	50	6	0,5	2
2SWB-015-040-03	1,5	6	50	3	0,75	2
2SWB-015-040-04	1,5	4	50	4	0,75	2
2SWB-015-040-06	1,5	4	50	6	0,75	2
2SWB-020-060-04	2	6	50	4	1	2
2SWB-020-060-06	2	6	50	6	1	2
2SWB-025-080-04	2,5	8	50	4	1,25	2
2SWB-025-060-06	2,5	8	50	6	1,25	2
2SWB-030-080-03	3	8	50	3	1,5	2
2SWB-030-080-04	3	8	50	4	1,5	2
2SWB-030-080-06	3	8	50	6	1,5	2
2SWB-030-03-75	3	6	75	3	1,5	2
2SWB-030-03-100	3	6	100	3	1,5	2
2SWB-035-110-04	3,5	11	50	4	1,75	2
2SWB-035-110-06	3,5	11	50	6	1,75	2

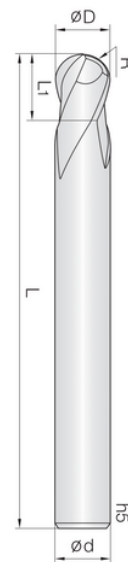
2SWB

2 Flutes Ball End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality NANO BLUE coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SWB-040-110-04	4	11	50	4	2	2
2SWB-040-110-06	4	11	50	6	2	2
2SWB-040-04-75	4	20	75	4	2	2
2SWB-040-04-100	4	20	100	4	2	2
2SWB-050-130-05	5	13	50	5	2,5	2
2SWB-050-130-06	5	13	50	6	2,5	2
2SWB-050-05-75	5	20	75	5	2,5	2
2SWB-050-06-75	5	13	75	6	2,5	2
2SWB-050-05-100	5	20	100	5	2,5	2
2SWB-060-150-06	6	15	50	6	3	2
2SWB-060-200-06	6	20	75	6	3	2
2SWB-060-250-06	6	25	100	6	3	2
2SWB-060-400-06	6	40	150	6	3	2
2SWB-070-200-08	7	20	60	8	3,5	2
2SWB-080-200-08	8	20	60	8	4	2
2SWB-080-250-08	8	25	75	8	4	2

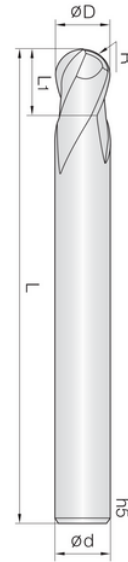
2SWB

2 Flutes Ball End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality NANO BLUE coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SWB-080-120-08	8	12	100	8	4	2
2SWB-080-400-08	8	40	150	8	4	2
2SWB-090-250-10	9	25	75	10	4,5	2
2SWB-100-250-10	10	25	75	10	5	2
2SWB-100-400-10	10	40	100	10	5	2
2SWB-100-500-10	10	50	150	10	5	2
2SWB-120-300-12	12	30	75	12	6	2
2SWB-120-250-12	12	25	83	12	6	2
2SWB-120-450-12	12	45	100	12	6	2
2SWB-120-500-12	12	50	150	12	6	2
2SWB-140-400-14	14	40	80	14	7	2
2SWB-140-500-14	14	50	100	14	7	2
2SWB-140-14-150	14	50	150	14	7	2
2SWB-160-450-16	16	45	100	16	8	2
2SWB-160-500-16	16	50	150	16	8	2
2SWB-180-450-18	18	45	100	18	9	2

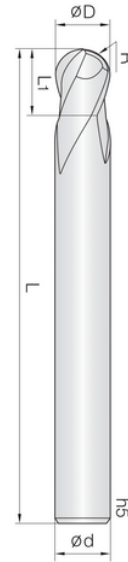
2SWB

2 Flutes Ball End Mills for Hardened Steels 68 HRC

Good wear resistance by high quality NANO BLUE coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2SWB-180-500-18	18	50	150	18	9	2
2SWB-200-450-20	20	45	100	20	10	2
2SWB-200-750-20	20	75	150	20	10	2

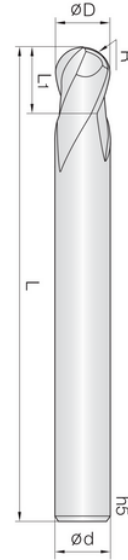
2CHB

2 Flutes Ball End Mills for Hardened Steels 62 HRC

Good wear resistance by high quality BLUE coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
2CHB-030-080-03	3	8	50	3	1,5	2
2CHB-040-100-04	4	10	50	4	2,1	2
2CHB-050-130-05	5	13	50	5	2,5	2
2CHB-060-140-06	6	14	55	6	3	2
2CHB-080-190-08	8	19	63	8	4	2
2CHB-100-220-10	10	22	72	10	5	2
2CHB-120-260-12	12	26	83	12	6	2
2CHB-140-260-14	14	26	83	14	7	2
2CHB-160-320-16	16	32	100	16	8	2
2CHB-200-380-20	20	38	104	20	10	2

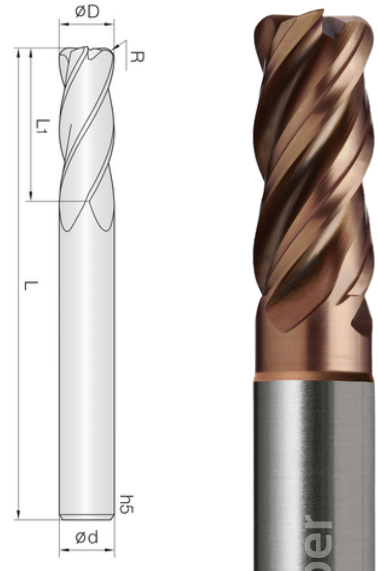
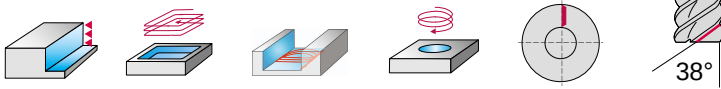
4HSC

4 Flutes Corner Radius End Mills for Hardened Steels 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HSC-030-005-06	3	55	8	6	0.5	4
4HSC-030-010-06	3	55	8	6	1.0	4
4HSC-040-005-06	4	55	10	6	0.5	4
4HSC-040-010-06	4	55	10	6	1.0	4
4HSC-050-005-06	5	55	13	6	0.5	4
4HSC-050-010-06	5	55	13	6	1.0	4
4HSC-050-020-06	5	55	13	6	2.0	4
4HSC-050-030-06	5	55	13	6	3.0	4
4HSC-060-005-06	6	55	13	6	0.5	4
4HSC-060-010-06	6	55	13	6	1.0	4
4HSC-060-020-06	6	55	13	6	2.0	4
4HSC-060-030-06	6	55	13	6	3.0	4
4HSC-080-005-08	8	63	19	8	0.5	4
4HSC-080-010-08	8	63	19	8	1.0	4
4HSC-080-020-08	8	63	19	8	2.0	4
4HSC-080-030-08	8	63	19	8	3.0	4

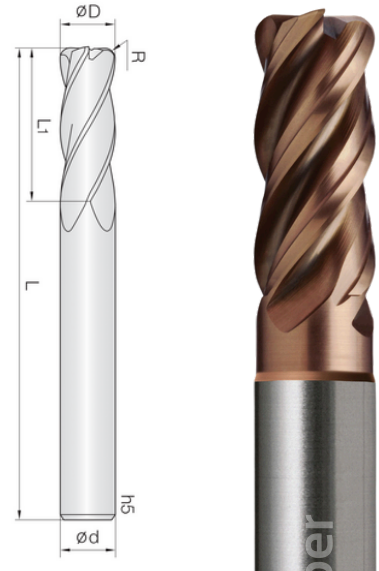
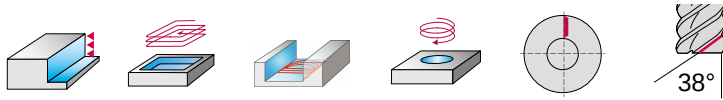
4HSC

4 Flutes Corner Radius End Mills for Hardened Steels 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HSC-100-005-10	10	22	72	10	0.5	4
4HSC-100-010-10	10	22	72	10	1.0	4
4HSC-100-020-10	10	22	72	10	2.0	4
4HSC-100-030-10	10	22	72	10	3.0	4
4HSC-120-005-12	12	30	82	12	0.5	4
4HSC-120-010-12	12	30	82	12	1.0	4
4HSC-120-020-12	12	30	82	12	2.0	4
4HSC-120-030-12	12	30	82	12	3.0	4
4HSC-140-005-14	14	30	82	14	0.5	4
4HSC-140-010-14	14	30	82	14	1.0	4
4HSC-140-020-14	14	30	82	14	2.0	4
4HSC-140-030-14	14	30	82	14	3.0	4
4HSC-160-005-16	16	40	100	16	0.5	4
4HSC-160-010-16	16	40	100	16	1.0	4
4HSC-160-020-16	16	40	100	16	2.0	4
4HSC-160-030-16	16	40	100	16	3.0	4

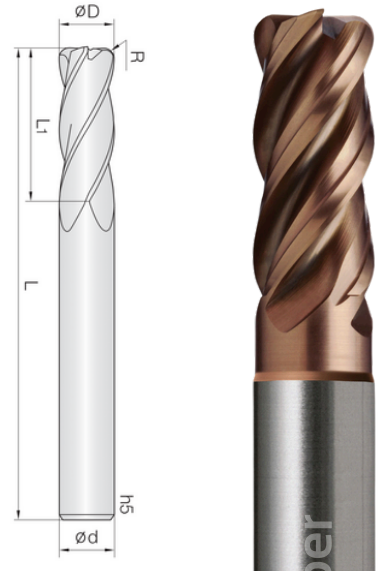
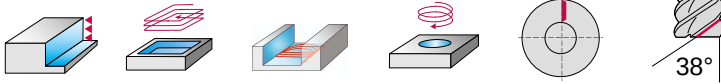
4HSC

4 Flutes Corner Radius End Mills for Hardened Steels 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HSC-200-005-20	20	40	104	20	0.5	4
4HSC-200-010-20	20	40	104	20	1.0	4
4HSC-200-020-20	20	40	104	20	2.0	4
4HSC-200-030-20	20	40	104	20	3.0	4

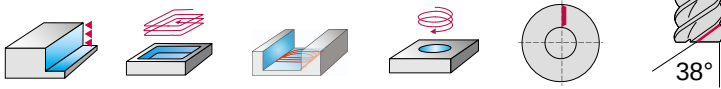
4HLC

4 Flutes Corner Radius Long Length End Mills 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HLC-060-005-06	6	25	82	6	0.5	4
4HLC-060-010-06	6	25	82	6	1.0	4
4HLC-060-020-06	6	25	82	6	2.0	4
4HLC-060-005-110	6	30	110	6	0.5	4
4HLC-060-010-110	6	30	110	6	1.0	4
4HLC-060-020-110	6	30	110	8	2.0	4
4HLC-080-005-08	8	30	82	8	0.5	4
4HLC-080-010-08	8	30	82	8	1.0	4
4HLC-080-020-08	8	30	82	8	2.0	4
4HLC-080-030-08	8	30	82	8	3.0	4
4HLC-080-005-110	8	40	110	8	0.5	4
4HLC-080-010-110	8	40	110	8	1.0	4
4HLC-080-020-110	8	40	110	8	2.0	4
4HLC-080-030-110	8	40	110	10	3.0	4
4HLC-100-005-10	10	45	110	10	0.5	4
4HLC-100-010-10	10	45	110	16	1.0	4

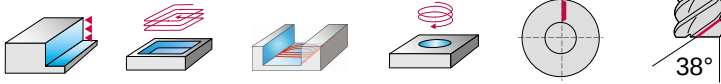
4HLC

4 Flutes Corner Radius Long Length End Mills 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HLC-100-020-10	10	45	110	10	2.0	4
4HLC-100-030-10	10	45	110	10	3.0	4
4HLC-100-005-150	10	55	150	10	0.5	4
4HLC-100-010-150	10	55	150	10	1.0	4
4HLC-100-020-150	10	55	150	10	2.0	4
4HLC-100-030-150	10	55	150	10	3.0	4
4HLC-120-005-12	12	45	110	12	0.5	4
4HLC-120-010-12	12	45	110	12	1.0	4
4HLC-120-020-12	12	45	110	12	2.0	4
4HLC-120-030-12	12	45	110	12	3.0	4
4HLC-120-005-150	12	55	150	12	0.5	4
4HLC-120-010-150	12	55	150	12	1.0	4
4HLC-120-020-150	12	55	150	12	2.0	4
4HLC-120-030-150	12	55	150	12	3.0	4
4HLC-140-005-14	14	60	150	14	0.5	4
4HLC-140-010-14	14	60	150	14	1.0	4

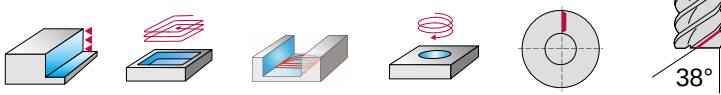
4HLC

4 Flutes Corner Radius Long Length End Mills 62 HRC

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Designed for minimizing edge chipping by corner R shape.



ORDER CODE	D	l	L	d	R	Z
4HLC-140-020-14	14	60	150	14	2.0	4
4HLC-140-030-14	14	60	150	14	3.0	4
4HLC-160-005-16	16	70	150	16	0.5	4
4HLC-160-010-16	16	70	150	16	1.0	4
4HLC-160-020-16	16	70	150	16	2.0	4
4HLC-160-030-16	16	70	150	16	3.0	4
4HLC-200-005-20	20	70	150	20	0.5	4
4HLC-200-010-20	20	70	150	20	1.0	4
4HLC-200-020-20	20	70	150	20	2.0	4
4HLC-200-030-20	20	70	150	20	3.0	4

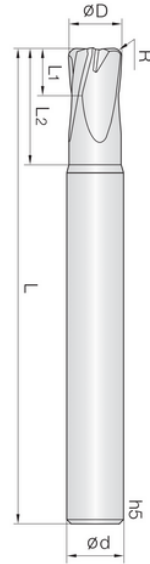
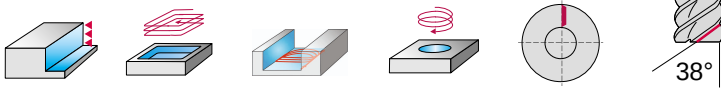
4HFC

4 Flutes High Speed Corner Radius Cutter

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

Suitable for heavy duty and roughing application.

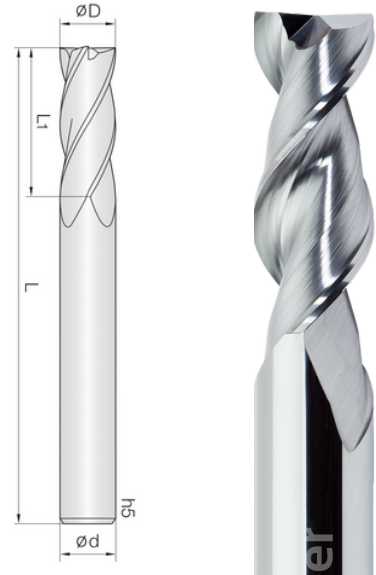
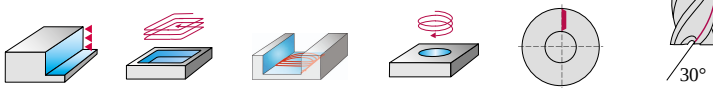


ORDER CODE	D	l	L	d	R	Z
4HFC-040-005-06	4	10	75	6	0,5	4
4HFC-040-010-06	4	10	75	6	1	4
4HFC-050-010-06	5	12	75	6	1	4
4HFC-050-012-06	5	12	75	6	1,2	4
4HFC-060-010-06	6	13	100	6	1	4
4HFC-060-015-06	6	13	100	6	1,5	4
4HFC-080-010-08	8	16	100	8	1	4
4HFC-080-020-08	8	16	100	8	2	4
4HFC-100-010-10	10	20	100	10	1	4
4HFC-100-020-10	10	20	100	10	2	4
4HFC-120-010-12	12	24	100	12	1	4
4HFC-120-020-12	12	24	100	12	2	4
4HFC-120-030-12	12	24	100	12	3	4

2ASE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

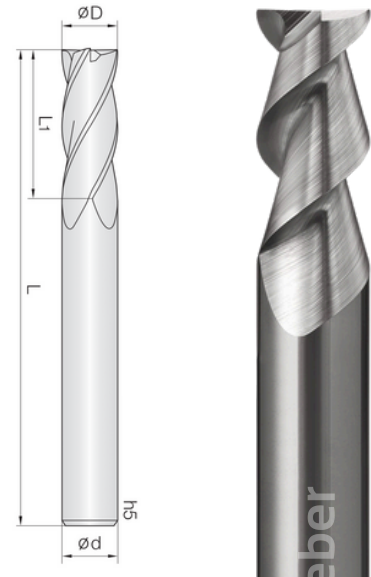
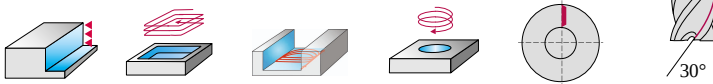


ORDER CODE	D	l	L	d	Z
2ASE-030-080-06	3	8	57	6	2
2ASE-040-100-06	4	10	57	6	2
2ASE-050-130-06	5	13	57	6	2
2ASE-060-130-06	6	14	57	6	2
2ASE-080-190-08	8	19	63	8	2
2ASE-100-220-10	10	22	72	10	2
2ASE-120-260-12	12	26	83	12	2
2ASE-140-260-14	14	26	83	14	2
2ASE-160-320-16	16	32	92	16	2
2ASE-180-320-18	18	32	92	18	2
2ASE-200-380-20	20	38	104	20	2

2NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

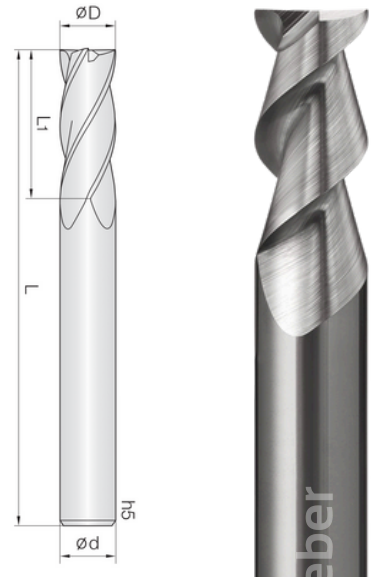
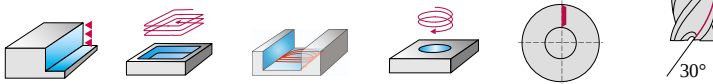


ORDER CODE	D	l	L	d	Z
2NSE-010-030-04	1	3	50	4	2
2NSE-010-030-06	1	3	50	6	2
2NSE-015-030-06	1,5	3	50	6	2
2NSE-020-060-04	2	6	50	4	2
2NSE-020-060-06	2	6	50	6	2
2NSE-030-080-03	3	8	50	3	2
2NSE-030-080-04	3	8	50	4	2
2NSE-030-080-06	3	8	50	6	2
2NSE-040-110-04	4	11	50	4	2
2NSE-040-110-06	4	11	50	6	2
2NSE-040-04-75	4	20	75	4	2
2NSE-040-04-100	4	20	100	4	2
2NSE-050-130-05	5	13	50	5	2
2NSE-050-130-06	5	13	50	6	2
2NSE-050-05-75	5	20	75	5	2
2NSE-050-05-100	5	20	100	5	2

2NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

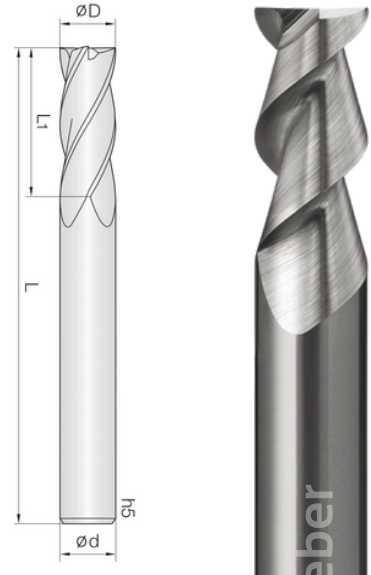
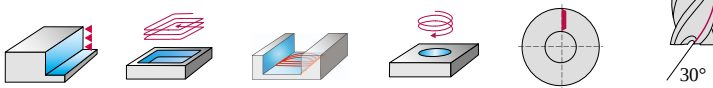


ORDER CODE	D	l	L	d	Z
2NSE-060-150-06	6	15	50	6	2
2NSE-060-06-75	6	20	75	6	2
2NSE-060-06-100	6	25	100	6	2
2NSE-060-06-150	6	40	150	6	2
2NSE-080-300-08	8	30	60	8	2
2NSE-080-08-75	8	25	75	8	2
2NSE-080-08-100	8	40	100	8	2
2NSE-080-08-150	8	40	150	8	2
2NSE-100-250-10	10	25	75	10	2
2NSE-100-10-100	10	40	100	10	2
2NSE-100-10-150	10	50	150	10	2
2NSE-120-300-12	12	30	75	12	2
2NSE-120-12-100	12	45	100	12	2
2NSE-120-12-150	12	50	150	12	2
2NSE-140-400-14	14	40	80	14	2
2NSE-140-14-100	14	50	100	14	2

2NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

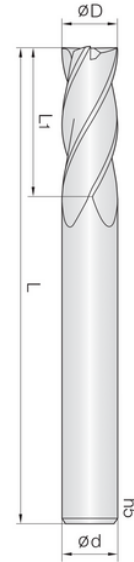
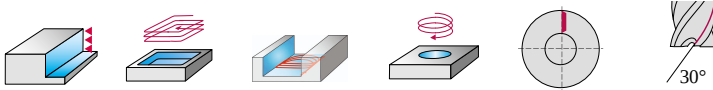


ORDER CODE	D	l	L	d	Z
2NSE-140-14-150	14	50	150	14	2
2NSE-160-450-16	16	45	100	16	2
2NSE-160-16-150	16	60	150	16	2
2NSE-180-450-18	18	45	100	18	2
2NSE-180-18-150	18	50	150	18	2
2NSE-200-450-20	20	45	100	20	2
2NSE-200-20-150	20	75	150	20	2

3ASE

3 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

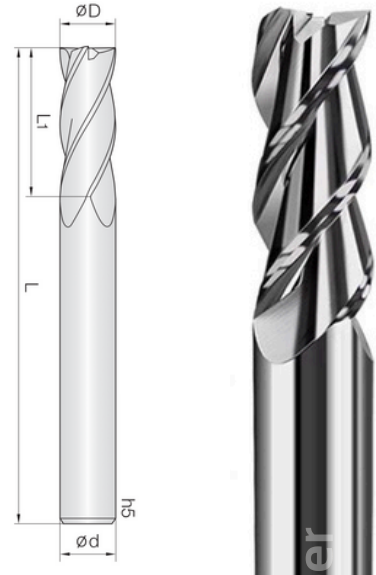
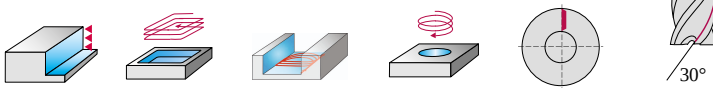


ORDER CODE	D	l	L	d	R	Z
3ASE-030-080-06	3	8	55	6	0,2	3
3ASE-040-100-06	4	10	55	6	0,2	3
3ASE-050-130-06	5	13	55	6	0,2	3
3ASE-060-140-06	6	14	55	6	0,2	3
3ASE-080-190-08	8	19	63	8	0,2	3
3ASE-100-220-10	10	22	72	10	0,2	3
3ASE-120-260-12	12	26	82	12	0,2	3
3ASE-140-260-14	14	26	82	14	0,2	3
3ASE-160-320-16	16	32	92	16	0,2	3
3ASE-160-400-16	16	40	100	16	0,2	3
3ASE-180-400-18	18	40	100	18	0,2	3
3ASE-200-450-20	20	45	104	20	0,2	3

3NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

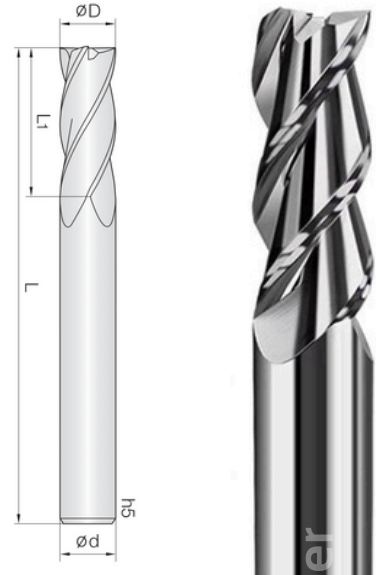
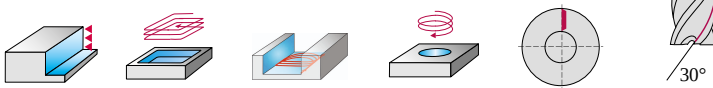


ORDER CODE	D	l	L	d	Z
3NSE-010-030-04	1	3	50	4	3
3NSE-010-030-06	1	3	50	6	3
3NSE-015-030-06	1,5	3	50	6	3
3NSE-020-060-04	2	6	50	4	3
3NSE-020-060-06	2	6	50	6	3
3NSE-030-080-03	3	8	50	3	3
3NSE-030-080-04	3	8	50	4	3
3NSE-030-080-06	3	8	50	6	3
3NSE-040-110-04	4	11	50	4	3
3NSE-040-110-06	4	11	50	6	3
3NSE-040-04-75	4	20	75	4	3
3NSE-040-04-100	4	20	100	4	3
3NSE-050-130-05	5	13	50	5	3
3NSE-050-130-06	5	13	50	6	3
3NSE-050-05-75	5	20	75	5	3
3NSE-050-05-100	5	20	100	5	3

3NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

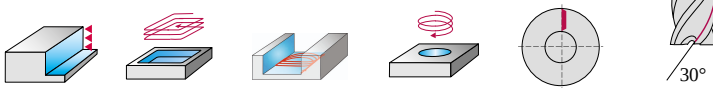


ORDER CODE	D	l	L	d	Z
3NSE-060-150-06	6	15	50	6	3
3NSE-060-06-75	6	20	75	6	3
3NSE-060-06-100	6	25	100	6	3
3NSE-060-06-150	6	40	150	6	3
3NSE-080-300-08	8	30	60	8	3
3NSE-080-08-75	8	25	75	8	3
3NSE-080-08-100	8	40	100	8	3
3NSE-080-08-150	8	40	150	8	3
3NSE-100-250-10	10	25	75	10	3
3NSE-100-10-100	10	40	100	10	3
3NSE-100-10-150	10	50	150	10	3
3NSE-120-300-12	12	30	75	12	3
3NSE-120-12-100	12	45	100	12	3
3NSE-120-12-150	12	50	150	12	3
3NSE-140-400-14	14	40	80	14	3
3NSE-140-14-100	14	50	100	14	3

3NSE

2 Flutes End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.



ORDER CODE	D	l	L	d	Z
3NSE-140-14-150	14	50	150	14	3
3NSE-160-450-16	16	45	100	16	3
3NSE-160-16-150	16	60	150	16	3
3NSE-180-450-18	18	45	100	18	3
3NSE-180-18-150	18	50	150	18	3
3NSE-200-450-20	20	45	100	20	3
3NSE-200-20-150	20	75	150	20	3

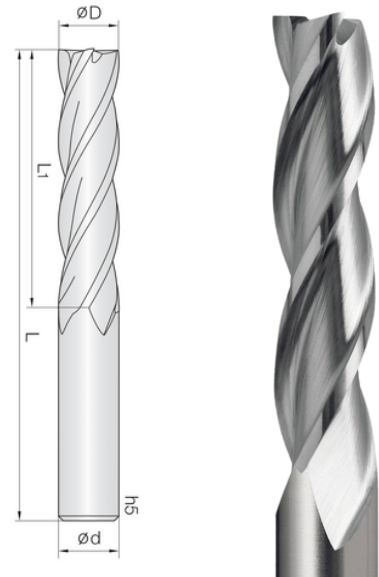
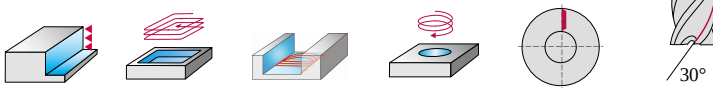
3ALE

3 Flutes Long Length End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.

Reinforced edge design for preventing edge chipping.

Excellent wear resistance by applying fine grade.

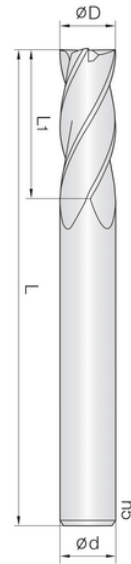
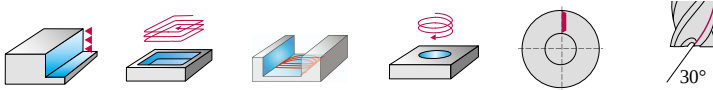


ORDER CODE	D	l	L	d	R	Z
3ALE-060-14-06	6	35	82	6	0,2	2
3ALE-060-250-110	6	45	110	6	0,2	2
3ALE-060-400-150	6	80	150	6	0,2	2
3ALE-080-190-06	8	40	82	6	0,2	2
3ALE-080-190-110	8	60	110	8	0,2	2
3ALE-080-190-150	8	80	150	8	0,2	2
3ALE-100-230-110	10	60	110	10	0,2	2
3ALE-100-230-150	10	80	150	10	0,2	2
3ALE-120-300-110	12	60	110	12	0,2	2
3ALE-120-300-150	12	80	150	12	0,2	2
3ALE-140-260-150	14	73	150	14	0,2	2
3ALE-160-400-150	16	100	150	16	0,2	2
3ALE-180-400-150	18	100	150	18	0,2	2
3ALE-200-400-150	20	100	150	20	0,2	2

3AZE

3 Flutes End Mills for Aluminum Coated

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

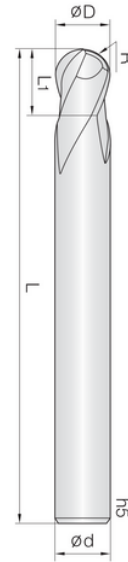


ORDER CODE	D	l	L	d	R	Z
3AZE-030-080-03	3	8	55	6	0,2	3
3AZE-040-100-06	4	10	55	6	0,2	3
3AZE-050-130-06	5	13	55	6	0,2	3
3AZE-060-140-06	6	14	55	6	0,2	3
3AZE-080-190-08	8	19	63	8	0,2	3
3AZE-100-220-10	10	22	72	10	0,2	3
3AZE-120-300-12	12	26	83	12	0,2	3
3AZE-140-300-14	14	26	83	14	0,2	3
3AZE-160-320-16	16	32	92	16	0,2	3
3AZE-160-400-16	16	32	100	16	0,2	3
3AZE-180-320-18	18	32	92	18	0,2	3
3AZE-200-380-20	20	38	104	20	0,2	3

2ASB

2 Flutes Ball End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

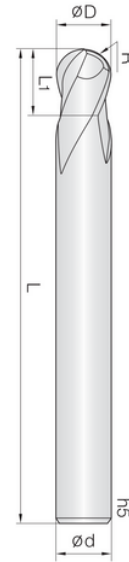


ORDER CODE	D	l	L	d	R	Z
2ASB-030-080-03	3	8	50	6	1,5	2
2ASB-040-100-04	4	10	50	6	2,1	2
2ASB-050-130-05	5	13	50	6	2,5	2
2ASB-060-140-06	6	14	55	6	3	2
2ASB-080-190-08	8	19	63	8	4	2
2ASB-100-220-10	10	22	72	10	5	2
2ASB-120-260-12	12	26	83	12	6	2
2ASB-140-320-14	14	26	83	14	7	2
2ASB-160-320-16	16	32	92	16	8	2
2ASB-160-320-100	16	32	100	16	8	2
2ASB-180-320-18	18	32	100	18	9	2
2ASB-200-380-20	20	38	104	20	10	2

2ALB

2 Flutes Ball Long Length End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.

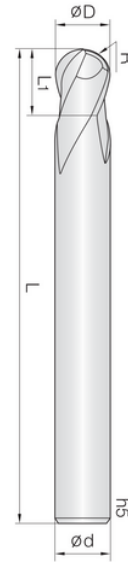


ORDER CODE	D	l	L	d	R	Z
2ALB-030-120-03	3	12	82	3	1,5	2
2ALB-030-120-110	3	12	110	3	1,5	2
2ALB-040-120-04	4	12	82	4	2	2
2ALB-040-120-110	4	12	110	4	2	2
2ALB-050-200-05	5	20	82	5	2,5	2
2ALB-050-200-110	5	20	110	5	2,5	2
2ALB-060-250-110	6	25	110	6	3	2
2ALB-060-250-150	6	25	150	6	3	2
2ALB-080-350-110	8	35	110	8	4	2
2ALB-080-350-150	8	35	150	8	4	2
2ALB-100-400-110	10	40	110	10	5	2
2ALB-100-400-150	10	40	150	10	5	2
2ALB-120-400-12	12	40	110	12	6	2
2ALB-120-350-150	12	35	150	12	6	2
2ALB-140-350-150	14	35	150	14	7	2
2ALB-160-500-150	16	50	150	16	8	2

2ALB

2 Flutes Ball Long Length End Mills for Aluminum

Minimize chattering by even run-out and tolerance control.
Reinforced edge design for preventing edge chipping.
Excellent wear resistance by applying fine grade.



ORDER CODE	D	l	L	d	R	Z
2ALB-180-500-150	18	50	150	18	9	2
2ALB-200-500-150	20	50	150	20	10	2

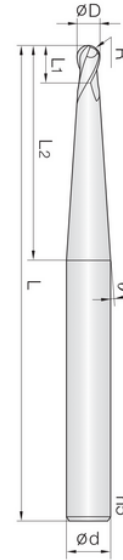
2CTB

2 Flutes Taper Neck Ball End Mills

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

One versatile tool concept for all applications and materials.



ORDER CODE	D	l	L	d	R	Z
2CTB-010-005-04	1	2	50	4	0,5	2
2CTB-015-0075-04	1,5	3	50	4	0,75	2
2CTB-020-014-04	2	4	50	4	1,4	2
2CTB-025-0125-04	2,5	5	50	4	1,25	2
2CTB-030-015-04	3	6	50	4	1,5	2
2CTB-040-021-06	4	8	50	6	2,1	2
2CTB-050-025-06	5	10	50	6	2,5	2

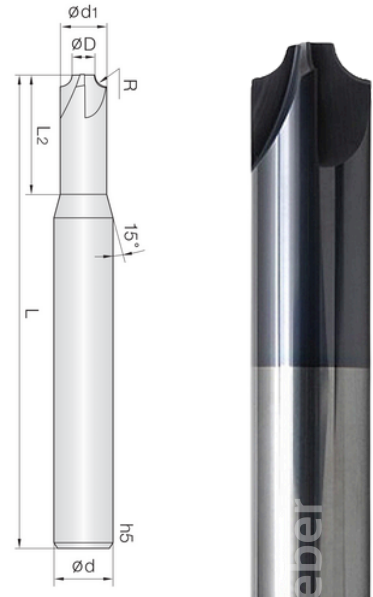
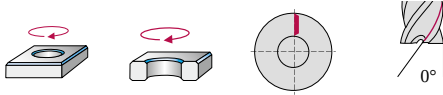
4CRC

4 Flutes Corner Rounding Cutter End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Very nice work surface finish.



ORDER CODE	D	l	L	d	R	Z
4CRC-045-005-06	4,5	7	55	6	0,5	3
4CRC-045-0075-06	4,5	7	55	6	0,75	3
4CRC-060-010-08	6	10	63	8	1	4
4CRC-050-015-08	5	10	63	8	1,5	4
4CRC-055-020-10	5,5	12	72	10	2	4
4CRC-035-025-10	3,5	12	72	10	2,5	4
4CRC-035-030-12	3,5	14	82	12	3	5
4CRC-055-040-14	5,5	16	82	14	4	4
4CRC-060-050-16	6	20	92	16	5	4
4CRC-080-060-20	8	20	105	20	6	4

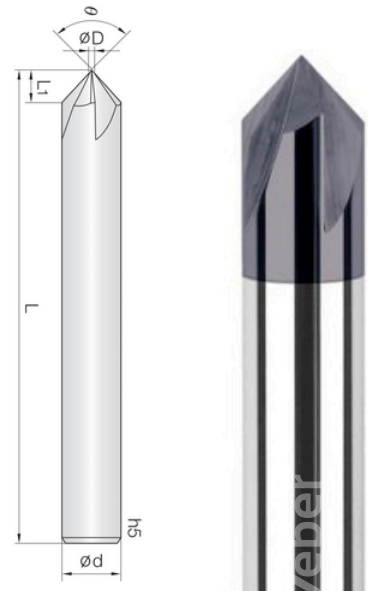
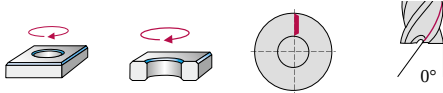
4TSE

4 Flutes Straight Flute Taper End Mills

Good wear resistance by high quality AlCrN coating.

High precise edge tolerance.

Optimum for NC engraving, chamfering and centering with straight 4flutes.



ORDER CODE	D	l	L	d	Z
4TSE-030-080-03	3	8	50	3	4
4TSE-040-100-04	4	10	50	4	4
4TSE-050-130-05	5	13	50	5	4
4TSE-060-140-06	6	14	55	6	4
4TSE-080-190-08	8	19	63	8	4
4TSE-100-220-10	10	22	72	10	4
4TSE-120-300-12	12	30	83	12	4
4TSE-140-300-14	14	30	83	14	4
4TSE-160-400-16	16	40	100	16	4
4TSE-180-400-18	18	40	100	18	4
4TSE-200-450-20	20	45	104	20	4

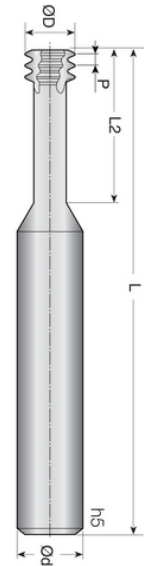
3TMM

3 Flutes Thread Mill Metric

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.



M-MF
DIN 13



ORDER CODE	G	P	L	d	d1	Z
3TMM-M1,6-035-03	M1,6	0,35	60	3	1,20	3
3TMM-M2,0-040-06	M2	0,40	60	6	1,55	3
3TMM-M2,5-045-06	M2,5	0,45	60	6	1,95	3
3TMM-M3,0-050-06	M3	0,50	60	6	2,30	3
3TMM-M4,0-070-06	M4	0,70	60	6	3,10	3
3TMM-M5,0-080-06	M5	0,80	60	6	4,00	3
4TMM-M5,0-080-06	M5	0,80	60	6	4,00	4
3TMM-M6,0-100-06	M6	1,00	60	6	4,80	3
4TMM-M6,0-100-06	M6	1,00	60	6	4,80	4
3TMM-M8,0-125-08	M8	1,25	65	8	6,40	3
4TMM-M10,0-150-10	M10	1,50	65	10	8,20	4
5TMM-M12,0-175-12	M12	1,75	80	10	9,50	5
4TMM-M14,0-200-14	M14	2,0	100	12	11,5	4
4TMM-M16,0-200-16	M16	2	100	12	11,5	4

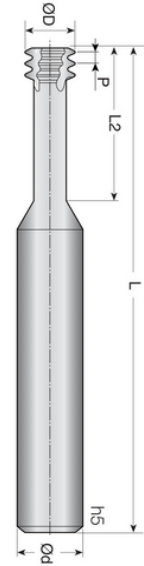
3TUC

3 Flutes Thread Mill UNC

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.



UNC
ASME B1.1



ORDER CODE	G	P	L	d	d1	Z
3TUC-1-64-06	1-64	64	60	6	1,35	3
3TUC-2-56-06	2-56	56	60	6	1,60	3
3UTC-3-48-06	3-48	48	60	6	1,95	3
3UTC-4-40-06	4-40	40	60	6	2,10	3
3UTC-8-32-06	8-32	32	60	6	3,25	3
3UTC-6-32-06	6-32	32	65	6	2,60	3
3UTC-10-24-06	10-24	24	65	6	3,55	3
3UTC-1/4-20-06	1/4	20	65	6	4,85	3
3UTC-5/16-18-06	5/16	18	65	8	6,20	3

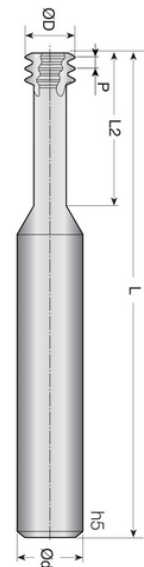
3TUF

3 Flutes Thread Mill UNF

Good wear resistance by high quality TISIN coating.
High precise edge tolerance.



UNF
ASME B1.1



ORDER CODE	G	P	L	d	d1	Z
3TUF-2-64-06	2-64	64	60	6	1,70	3
3TUF-3-56-06	3-56	56	60	6	1,95	3
3TUF-4-48-06	4-48	48	60	6	2,15	3
3TUF-6-40-06	6-40	40	60	6	2,75	3
3TUF-10-32-06	10-32	32	65	6	3,85	3
3TUF-1/4-28-06	1/4	28	65	6	5,25	3
3TUF-5/16-16-06	5/16	16	65	8	6,55	3



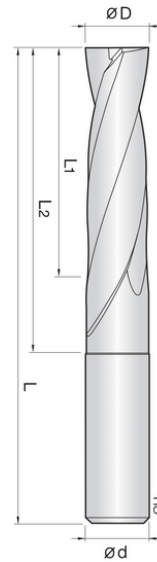
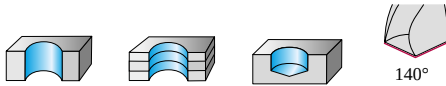
DRILLS

HIGH SPEED TECHNOLOGY

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

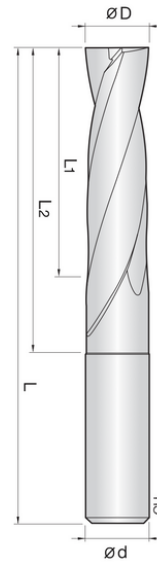
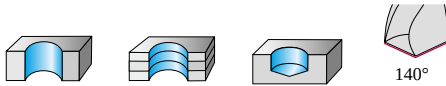


ORDER CODE	D	L1	L2	L	d
3DRW-0100-04	1	5	8	50	4
3DRW-0100-04	1,5	5	8	50	4
3DRW-0200-04	2	8	10	50	4
3DRW-0250-04	2,5	10	13	50	4
3DRW-0300-06	3	20	14	65	6
3DRW-0310-04	3	20	14	65	4
3DRW-0310-06	3,1	20	14	65	6
3DRW-0310-04	3,1	20	14	65	4
3DRW-0320-06	3,2	20	14	65	6
3DRW-0320-04	3,2	20	14	65	4
3DRW-0330-06	3,3	20	14	65	6
3DRW-0330-04	3,3	20	14	65	4
3DRW-0340-06	3,4	20	14	65	6
3DRW-0340-04	3,4	20	14	65	4
3DRW-0350-06	3,5	20	14	65	6
3DRW-0350-04	3,5	20	14	65	4

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

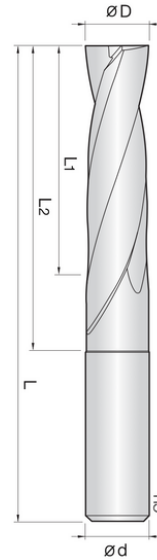
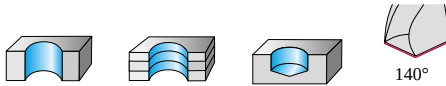


ORDER CODE	D	L1	L2	L	d
3DRW-0360-06	3,6	20	14	65	6
3DRW-0360-04	3,6	20	14	65	4
3DRW-0370-06	3,7	20	14	65	6
3DRW-0370-04	3,7	20	14	65	4
3DRW-0380-06	3,8	24	17	65	6
3DRW-0380-04	3,8	24	17	65	4
3DRW-0390-06	3,9	24	17	65	6
3DRW-0390-04	3,9	24	17	65	4
3DRW-0400-06	4	24	17	65	6
3DRW-0400-04	4	24	17	65	4
3DRW-0410-06	4,1	24	17	65	6
3DRW-0420-06	4,2	24	17	65	6
3DRW-0430-06	4,3	24	17	65	6
3DRW-0440-06	4,4	24	17	65	6
3DRW-0450-06	4,5	24	17	65	6
3DRW-0460-06	4,6	24	17	65	6

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

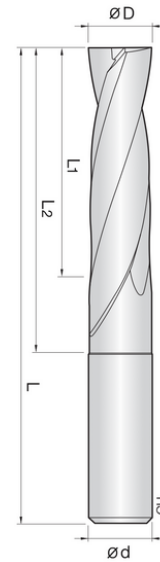
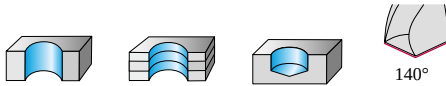


ORDER CODE	D	L1	L2	L	d
3DRW-0470-06	4,7	24	17	65	6
3DRW-0480-06	4,8	28	20	65	6
3DRW-0490-06	4,9	28	20	65	6
3DRW-0500-06	5	28	20	65	6
3DRW-0510-06	5,1	28	20	65	6
3DRW-0520-06	5,2	28	20	65	6
3DRW-0530-06	5,3	28	20	65	6
3DRW-0540-06	5,4	28	20	65	6
3DRW-0550-06	5,5	28	20	65	6
3DRW-0560-06	5,6	28	20	65	6
3DRW-0570-06	5,7	28	20	65	6
3DRW-0580-06	5,8	28	20	65	6
3DRW-0590-06	5,9	28	20	65	6
3DRW-0600-06	6	28	20	65	6
3DRW-0610-08	6,1	34	24	79	8
3DRW-0620-08	6,2	34	24	79	8

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

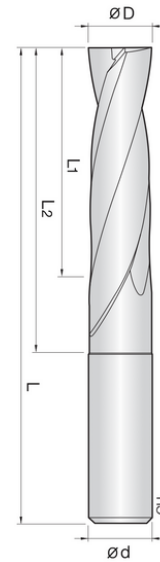
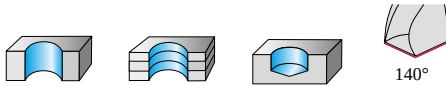


ORDER CODE	D	L1	L2	L	d
3DRW-0630-08	6,3	34	24	79	8
3DRW-0640-08	6,4	34	24	79	8
3DRW-0650-08	6,5	34	24	79	8
3DRW-0660-08	6,6	34	24	79	8
3DRW-0670-08	6,7	34	24	79	8
3DRW-0680-08	6,8	34	24	79	8
3DRW-0690-08	6,9	34	24	79	8
3DRW-0700-08	7	34	24	79	8
3DRW-0710-08	7,1	41	28	79	8
3DRW-0720-08	7,2	41	28	79	8
3DRW-0730-08	7,3	41	28	79	8
3DRW-0740-08	7,4	41	28	79	8
3DRW-0750-08	7,5	41	28	79	8
3DRW-0760-08	7,6	41	29	79	8
3DRW-0770-08	7,7	41	29	79	8
3DRW-0780-08	7,8	41	29	79	8

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

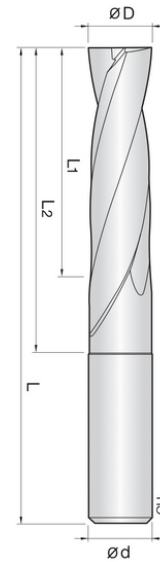
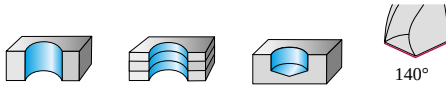


ORDER CODE	D	L1	L2	L	d
3DRW-0790-08	7,9	41	29	79	8
3DRW-0800-08	8	41	29	79	8
3DRW-0810-10	8,1	47	35	89	10
3DRW-0820-10	8,2	47	35	89	10
3DRW-0830-10	8,3	47	35	89	10
3DRW-0840-10	8,4	47	35	89	10
3DRW-0850-10	8,5	47	35	89	10
3DRW-0860-10	8,6	47	35	89	10
3DRW-0870-10	8,7	47	35	89	10
3DRW-0880-10	8,8	47	35	89	10
3DRW-0890-10	8,9	47	35	89	10
3DRW-0900-10	9	47	35	89	10
3DRW-0910-10	9,1	47	35	89	10
3DRW-0920-10	9,2	47	35	89	10
3DRW-0930-10	9,3	47	35	89	10
3DRW-0940-10	9,4	47	35	89	10

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

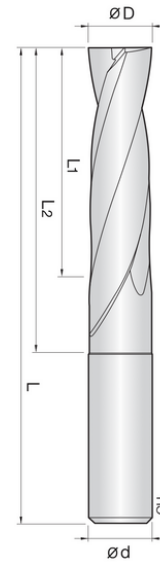
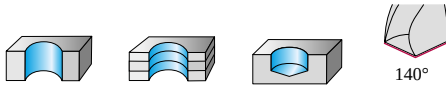


ORDER CODE	D	L1	L2	L	d
3DRW-0950-10	9,5	47	35	89	10
3DRW-0960-10	9,6	47	35	89	10
3DRW-0970-10	9,7	47	35	89	10
3DRW-0980-10	9,8	47	35	89	10
3DRW-0990-10	9,9	47	35	89	10
3DRW-1000-10	10	47	35	89	10
3DRW-1010-12	10,1	55	40	102	12
3DRW-1020-12	10,2	55	40	102	12
3DRW-1030-12	10,3	55	40	102	12
3DRW-1040-12	10,4	55	40	102	12
3DRW-1050-12	10,5	55	40	102	12
3DRW-1060-12	10,6	55	40	102	12
3DRW-1070-12	10,7	55	40	102	12
3DRW-1080-12	10,8	55	40	102	12
3DRW-1090-12	10,9	55	40	102	12
3DRW-1100-12	11	55	40	102	12

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

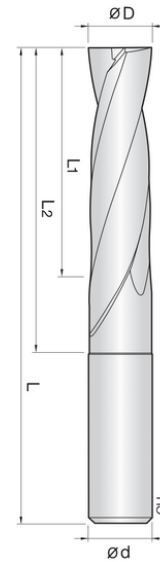
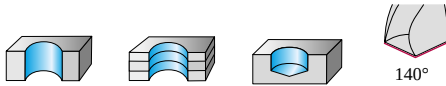


ORDER CODE	D	L1	L2	L	d
3DRW-1110-12	11,1	55	40	102	12
3DRW-1120-12	11,2	55	40	102	12
3DRW-1130-12	11,3	55	40	102	12
3DRW-1140-12	11,4	55	40	102	12
3DRW-1150-12	11,5	55	40	102	12
3DRW-1160-12	11,6	55	40	102	12
3DRW-1170-12	11,7	55	40	102	12
3DRW-1180-12	11,8	55	40	102	12
3DRW-1190-12	11,9	55	40	102	12
3DRW-1200-12	12	55	40	102	12
3DRW-1210-14	12,1	60	43	107	14
3DRW-1220-14	12,2	60	43	107	14
3DRW-1230-14	12,3	60	43	107	14
3DRW-1240-14	12,4	60	43	107	14
3DRW-1250-14	12,5	60	43	107	14
3DRW-1260-14	12,6	60	43	107	14

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

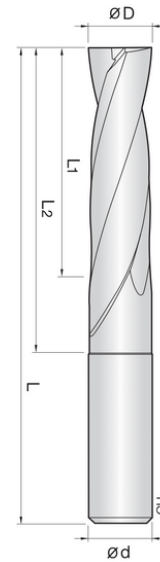
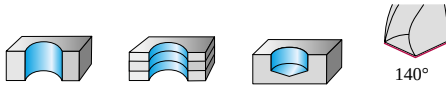


ORDER CODE	D	L1	L2	L	d
3DRW-1270-14	12,7	60	43	107	14
3DRW-1280-14	12,8	60	43	107	14
3DRW-1290-14	12,9	60	43	107	14
3DRW-1300-14	13	60	43	107	14
3DRW-1310-14	13,1	60	43	107	14
3DRW-1320-14	13,2	60	43	107	14
3DRW-1330-14	13,3	60	43	107	14
3DRW-1340-14	13,4	60	43	107	14
3DRW-1350-14	13,5	60	43	107	14
3DRW-1360-14	13,6	60	43	107	14
3DRW-1370-14	13,7	60	43	107	14
3DRW-1380-14	13,8	60	43	107	14
3DRW-1390-14	13,9	60	43	107	14
3DRW-1400-14	14	60	43	107	14
3DRW-1410-16	14,1	60	45	110	16
3DRW-1420-16	14,2	65	45	110	16

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

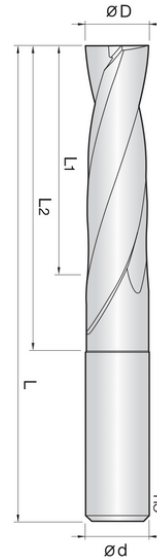
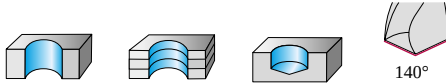


ORDER CODE	D	L1	L2	L	d
3DRW-1430-16	14,3	65	45	110	16
3DRW-1440-16	14,4	65	45	110	16
3DRW-1450-16	14,5	65	45	110	16
3DRW-1460-16	14,6	65	45	110	16
3DRW-1470-16	14,7	65	45	110	16
3DRW-1480-16	14,8	65	45	110	16
3DRW-1490-16	14,9	65	45	110	16
3DRW-1500-16	15	65	45	110	16
3DRW-1510-16	15,1	65	45	110	16
3DRW-1520-16	15,2	65	45	110	16
3DRW-1530-16	15,3	65	45	110	16
3DRW-1540-16	15,4	65	45	110	16
3DRW-1550-16	15,5	65	45	110	16
3DRW-1560-16	15,6	65	45	110	16
3DRW-1570-16	15,7	65	45	110	16
3DRW-1580-16	15,8	65	45	110	16

3DRW

2 Flutes High Performance Drill 3XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



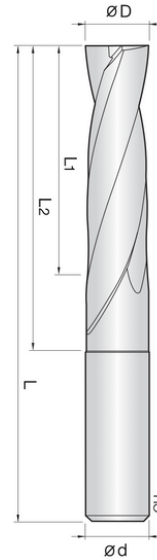
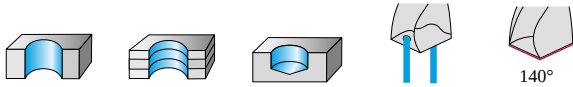
ORDER CODE	D	L1	L2	L	d
3DRW-1590-16	15,9	65	45	110	16
3DRW-1600-16	16	65	45	110	16
3DRW-1650-18	16,5	65	51	123	18
3DRW-1700-18	17	73	51	123	18
3DRW-1750-18	17,5	73	51	123	18
3DRW-1800-18	18	73	51	123	18
3DRW-1850-20	18,5	79	55	131	20
3DRW-1900-20	19	79	55	131	20
3DRW-1950-20	19,5	79	55	131	20
3DRW-2000-20	20	79	55	131	20

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



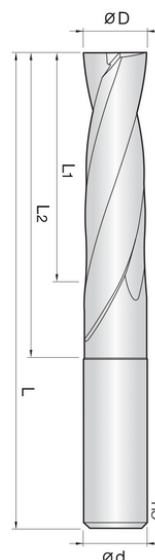
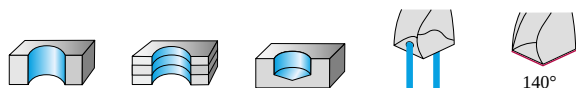
ORDER CODE	D	L1	L2	L	d
3DRC-0300-06	3	20	14	65	6
3DRC-0310-06	3,1	20	14	65	6
3DRC-0320-06	3,2	20	14	65	6
3DRC-0330-06	3,3	20	14	65	6
3DRC-0340-06	3,4	20	14	65	6
3DRC-0350-06	3,5	20	14	65	6
3DRC-0360-06	3,6	20	14	65	6
3DRC-0370-06	3,7	20	14	65	6
3DRC-0380-06	3,8	24	17	65	6
3DRC-0390-06	3,9	24	17	65	6
3DRC-0400-06	4	24	17	65	6
3DRC-0410-06	4,1	24	17	65	6
3DRC-0420-06	4,2	24	17	65	6
3DRC-0430-06	4,3	24	17	65	6
3DRC-0440-06	4,4	24	17	65	6
3DRC-0450-06	4,5	24	17	65	6

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



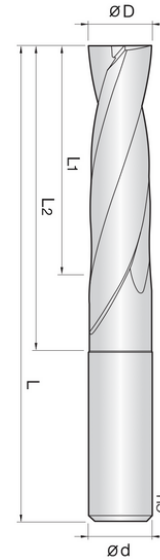
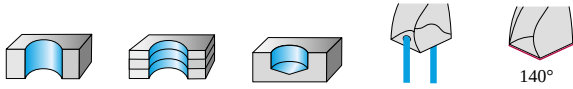
ORDER CODE	D	L1	L2	L	d
3DRC-0460-06	4,6	24	17	65	6
3DRC-0470-06	4,7	24	17	65	6
3DRC-0480-06	4,8	28	20	65	6
3DRC-0490-06	4,9	28	20	65	6
3DRC-0500-06	5	28	20	65	6
3DRC-0510-06	5,1	28	20	65	6
3DRC-0520-06	5,2	28	20	65	6
3DRC-0530-06	5,3	28	20	65	6
3DRC-0540-06	5,4	28	20	65	6
3DRC-0550-06	5,5	28	20	65	6
3DRC-0560-06	5,6	28	20	65	6
3DRC-0570-06	5,7	28	20	65	6
3DRC-0580-06	5,8	28	20	65	6
3DRC-0590-06	5,9	28	20	65	6
3DRC-0600-06	6	28	20	65	6
3DRC-0610-08	6,1	34	24	79	8

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



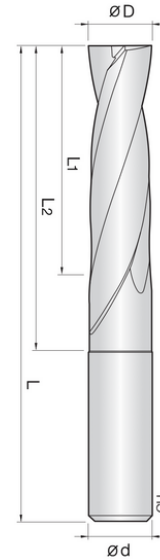
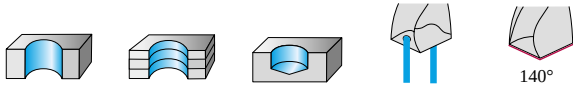
ORDER CODE	D	L1	L2	L	d
3DRC-0620-08	6,2	34	24	79	8
3DRC-0630-08	6,3	34	24	79	8
3DRC-0640-08	6,4	34	24	79	8
3DRC-0650-08	6,5	34	24	79	8
3DRC-0660-08	6,6	34	24	79	8
3DRC-0670-08	6,7	34	24	79	8
3DRC-0680-08	6,8	34	24	79	8
3DRC-0690-08	6,9	34	24	79	8
3DRC-0700-08	7	34	24	79	8
3DRC-0710-08	7,1	41	28	79	8
3DRC-0720-08	7,2	41	28	79	8
3DRC-0730-08	7,3	41	28	79	8
3DRC-0740-08	7,4	41	28	79	8
3DRC-0750-08	7,5	41	28	79	8
3DRC-0760-08	7,6	41	29	79	8
3DRC-0770-08	7,7	41	29	79	8

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



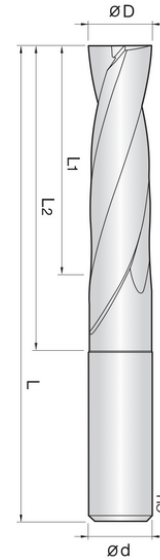
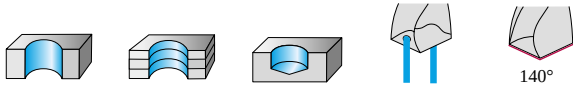
ORDER CODE	D	L1	L2	L	d
3DRC-0780-08	7,8	41	29	79	8
3DRC-0790-08	7,9	41	29	79	8
3DRC-0800-08	8	41	29	79	8
3DRC-0810-10	8,1	47	35	89	10
3DRC-0820-10	8,2	47	35	89	10
3DRC-0830-10	8,3	47	35	89	10
3DRC-0840-10	8,4	47	35	89	10
3DRC-0850-10	8,5	47	35	89	10
3DRC-0860-10	8,6	47	35	89	10
3DRC-0870-10	8,7	47	35	89	10
3DRC-0880-10	8,8	47	35	89	10
3DRC-0890-10	8,9	47	35	89	10
3DRC-0900-10	9	47	35	89	10
3DRC-0910-10	9,1	47	35	89	10
3DRC-0920-10	9,2	47	35	89	10
3DRC-0930-10	9,3	47	35	89	10

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



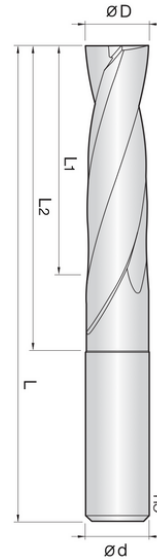
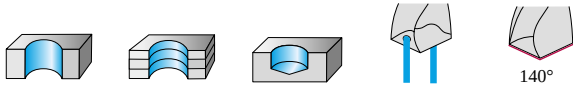
ORDER CODE	D	L1	L2	L	d
3DRC-0940-10	9,4	47	35	89	10
3DRC-0950-10	9,5	47	35	89	10
3DRC-0960-10	9,6	47	35	89	10
3DRC-0970-10	9,7	47	35	89	10
3DRC-0980-10	9,8	47	35	89	10
3DRC-0990-10	9,9	47	35	89	10
3DRC-1000-10	10	47	35	89	10
3DRC-1010-12	10,1	55	40	102	12
3DRC-1020-12	10,2	55	40	102	12
3DRC-1030-12	10,3	55	40	102	12
3DRC-1040-12	10,4	55	40	102	12
3DRC-1050-12	10,5	55	40	102	12
3DRC-1060-12	10,6	55	40	102	12
3DRC-1070-12	10,7	55	40	102	12
3DRC-1080-12	10,8	55	40	102	12
3DRC-1090-12	10,9	55	40	102	12

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



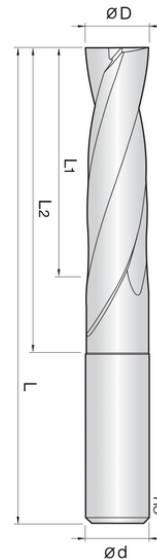
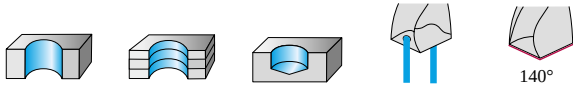
ORDER CODE	D	L1	L2	L	d
3DRC-1100-12	11	55	40	102	12
3DRC-1110-12	11,1	55	40	102	12
3DRC-1120-12	11,2	55	40	102	12
3DRC-1130-12	11,3	55	40	102	12
3DRC-1140-12	11,4	55	40	102	12
3DRC-1150-12	11,5	55	40	102	12
3DRC-1160-12	11,6	55	40	102	12
3DRC-1170-12	11,7	55	40	102	12
3DRC-1180-12	11,8	55	40	102	12
3DRC-1190-12	11,9	55	40	102	12
3DRC-1200-12	12	60	43	102	14
3DRC-1210-14	12,1	60	43	107	14
3DRC-1220-14	12,2	60	43	107	14
3DRC-1230-14	12,3	60	43	107	14
3DRC-1240-14	12,4	60	43	107	14
3DRC-1250-14	12,5	60	43	107	14

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



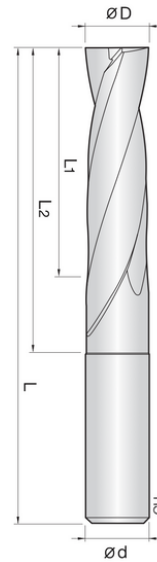
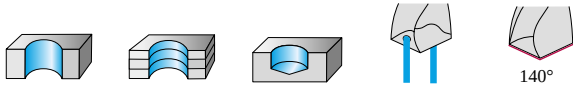
ORDER CODE	D	L1	L2	L	d
3DRW-1260-14	12,6	60	43	107	14
3DRW-1270-14	12,7	60	43	107	14
3DRW-1280-14	12,8	60	43	107	14
3DRW-1290-14	12,9	60	43	107	14
3DRW-1300-14	13	60	43	107	14
3DRW-1310-14	13,1	60	43	107	14
3DRW-1320-14	13,2	60	43	107	14
3DRW-1330-14	13,3	60	43	107	14
3DRW-1340-14	13,4	60	43	107	14
3DRW-1350-14	13,5	60	43	107	14
3DRW-1360-14	13,6	60	43	107	14
3DRW-1370-14	13,7	60	43	107	14
3DRW-1380-14	13,8	60	43	107	14
3DRW-1390-14	13,9	60	43	107	14
3DRW-1400-14	14	60	45	107	14
3DRW-1410-16	14,1	60	45	110	16

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



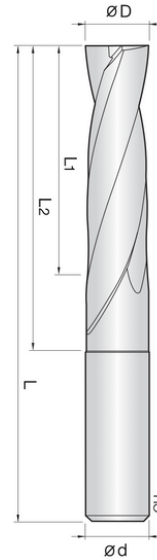
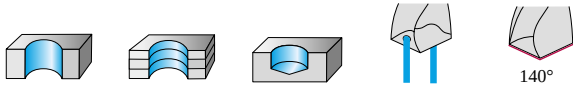
ORDER CODE	D	L1	L2	L	d
3DRW-1420-16	14,2	65	45	110	16
3DRW-1430-16	14,3	65	45	110	16
3DRW-1440-16	14,4	65	45	110	16
3DRW-1450-16	14,5	65	45	110	16
3DRW-1460-16	14,6	65	45	110	16
3DRW-1470-16	14,7	65	45	110	16
3DRW-1480-16	14,8	65	45	110	16
3DRW-1490-16	14,9	65	45	110	16
3DRW-1500-16	15	65	45	110	16
3DRW-1510-16	15,1	65	45	110	16
3DRW-1520-16	15,2	65	45	110	16
3DRW-1530-16	15,3	65	45	110	16
3DRW-1540-16	15,4	65	45	110	16
3DRW-1550-16	15,5	65	45	110	16
3DRW-1560-16	15,6	65	45	110	16
3DRW-1570-16	15,7	65	45	110	16

3DRC



2 Flutes High Performance Drill 3XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

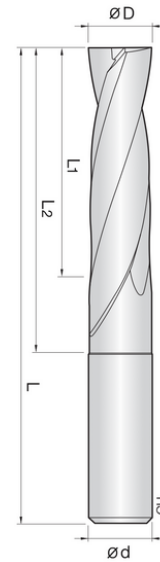
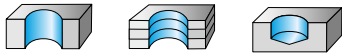


ORDER CODE	D	L1	L2	L	d
3DRW-1580-16	15,8	65	45	110	16
3DRW-1590-16	15,9	65	45	110	16
3DRW-1600-16	16	65	45	110	16
3DRW-1650-18	16,5	65	51	123	18
3DRW-1700-18	17	73	51	123	18
3DRW-1750-18	17,5	73	51	123	18
3DRW-1800-18	18	73	51	123	18
3DRW-1850-20	18,5	79	55	131	20
3DRW-1900-20	19	79	55	131	20
3DRW-1950-20	19,5	79	55	131	20
3DRW-2000-20	20	79	55	131	20

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

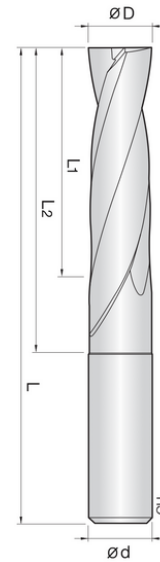
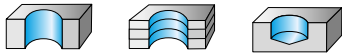


ORDER CODE	D	L1	L2	L	d
3DRX-0300-06	3	20	14	65	6
3DRX-0310-06	3,1	20	14	65	6
3DRX-0320-06	3,2	20	14	65	6
3DRX-0330-06	3,3	20	14	65	6
3DRX-0340-06	3,4	20	14	65	6
3DRX-0350-06	3,5	20	14	65	6
3DRX-0360-06	3,6	20	14	65	6
3DRX-0370-06	3,7	20	14	65	6
3DRX-0380-06	3,8	24	17	65	6
3DRX-0390-06	3,9	24	17	65	6
3DRX-0400-06	4	24	17	65	6
3DRX-0410-06	4,1	24	17	65	6
3DRX-0420-06	4,2	24	17	65	6
3DRX-0430-06	4,3	24	17	65	6
3DRX-0440-06	4,4	24	17	65	6
3DRX-0450-06	4,5	24	17	65	6

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

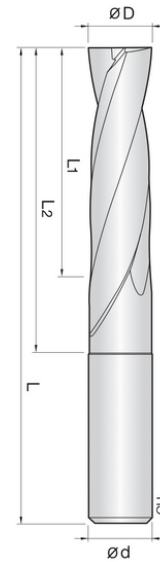
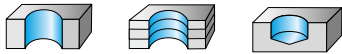


ORDER CODE	D	L1	L2	L	d
3DRX-0460-06	4,6	24	17	65	6
3DRX-0470-06	4,7	24	17	65	6
3DRX-0480-06	4,8	28	20	65	6
3DRX-0490-06	4,9	28	20	65	6
3DRX-0500-06	5	28	20	65	6
3DRX-0510-06	5,1	28	20	65	6
3DRX-0520-06	5,2	28	20	65	6
3DRX-0530-06	5,3	28	20	65	6
3DRX-0540-06	5,4	28	20	65	6
3DRX-0550-06	5,5	28	20	65	6
3DRX-0560-06	5,6	28	20	65	6
3DRX-0570-06	5,7	28	20	65	6
3DRX-0580-06	5,8	28	20	65	6
3DRX-0590-06	5,9	28	20	65	6
3DRX-0600-06	6	28	20	65	6
3DRX-0610-08	6,1	34	24	79	8

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

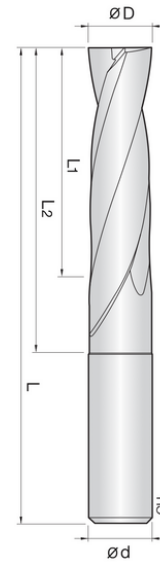
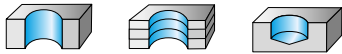


ORDER CODE	D	L1	L2	L	d
3DRX-0620-08	6,2	34	24	79	8
3DRX-0630-08	6,3	34	24	79	8
3DRX-0640-08	6,4	34	24	79	8
3DRX-0650-08	6,5	34	24	79	8
3DRX-0660-08	6,6	34	24	79	8
3DRX-0670-08	6,7	34	24	79	8
3DRX-0680-08	6,8	34	24	79	8
3DRX-0690-08	6,9	34	24	79	8
3DRX-0700-08	7	34	24	79	8
3DRX-0710-08	7,1	41	28	79	8
3DRX-0720-08	7,2	41	28	79	8
3DRX-0730-08	7,3	41	28	79	8
3DRX-0740-08	7,4	41	28	79	8
3DRX-0750-08	7,5	41	28	79	8
3DRX-0760-08	7,6	41	29	79	8
3DRX-0770-08	7,7	41	29	79	8

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

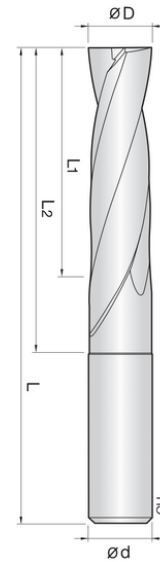
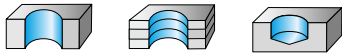


ORDER CODE	D	L1	L2	L	d
3DRX-0780-08	7,8	41	29	79	8
3DRX-0790-08	7,9	41	29	79	8
3DRX-0800-08	8	41	29	79	8
3DRX-0810-10	8,1	47	35	89	10
3DRX-0820-10	8,2	47	35	89	10
3DRX-0830-10	8,3	47	35	89	10
3DRX-0840-10	8,4	47	35	89	10
3DRX-0850-10	8,5	47	35	89	10
3DRX-0860-10	8,6	47	35	89	10
3DRX-0870-10	8,7	47	35	89	10
3DRX-0880-10	8,8	47	35	89	10
3DRX-0890-10	8,9	47	35	89	10
3DRX-0900-10	9	47	35	89	10
3DRX-0910-10	9,1	47	35	89	10
3DRX-0920-10	9,2	47	35	89	10
3DRX-0930-10	9,3	47	35	89	10

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

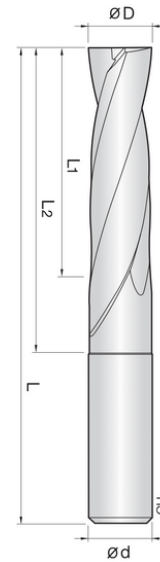
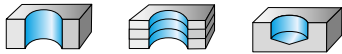


ORDER CODE	D	L1	L2	L	d
3DRX-0940-10	9,4	47	35	89	10
3DRX-0950-10	9,5	47	35	89	10
3DRX-0960-10	9,6	47	35	89	10
3DRX-0970-10	9,7	47	35	89	10
3DRX-0980-10	9,8	47	35	89	10
3DRX-0990-10	9,9	47	35	89	10
3DRX-1000-10	10	47	35	89	10
3DRX-1010-12	10,1	55	40	102	12
3DRX-1020-12	10,2	55	40	102	12
3DRX-1030-12	10,3	55	40	102	12
3DRX-1040-12	10,4	55	40	102	12
3DRX-1050-12	10,5	55	40	102	12
3DRX-1060-12	10,6	55	40	102	12
3DRX-1070-12	10,7	55	40	102	12
3DRX-1080-12	10,8	55	40	102	12
3DRX-1090-12	10,9	55	40	102	12

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

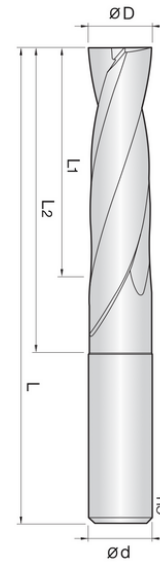
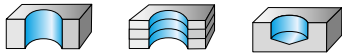


ORDER CODE	D	L1	L2	L	d
3DRX-1100-12	11	55	40	102	12
3DRX-1110-12	11,1	55	40	102	12
3DRX-1120-12	11,2	55	40	102	12
3DRX-1130-12	11,3	55	40	102	12
3DRX-1140-12	11,4	55	40	102	12
3DRX-1150-12	11,5	55	40	102	12
3DRX-1160-12	11,6	55	40	102	12
3DRX-1170-12	11,7	55	40	102	12
3DRX-1180-12	11,8	55	40	102	12
3DRX-1190-12	11,9	55	40	102	12
3DRX-1200-12	12	55	40	102	12
3DRX-1210-14	12,1	60	43	107	14
3DRX-1220-14	12,2	60	43	107	14
3DRX-1230-14	12,3	60	43	107	14
3DRX-1240-14	12,4	60	43	107	14
3DRX-1250-14	12,5	60	43	107	14

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

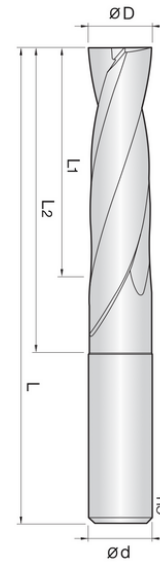
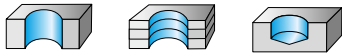


ORDER CODE	D	L1	L2	L	d
3DRX-1260-14	12,6	60	43	107	14
3DRX-1270-14	12,7	60	43	107	14
3DRX-1280-14	12,8	60	43	107	14
3DRX-1290-14	12,9	60	43	107	14
3DRX-1300-14	13	60	43	107	14
3DRX-1310-14	13,1	60	43	107	14
3DRX-1320-14	13,2	60	43	107	14
3DRX-1330-14	13,3	60	43	107	14
3DRX-1340-14	13,4	60	43	107	14
3DRX-1350-14	13,5	60	43	107	14
3DRX-1360-14	13,6	60	43	107	14
3DRX-1370-14	13,7	60	43	107	14
3DRX-1380-14	13,8	60	43	107	14
3DRX-1390-14	13,9	60	43	107	14
3DRX-1400-14	14	60	43	107	14
3DRX-1410-16	14,1	60	45	110	16

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

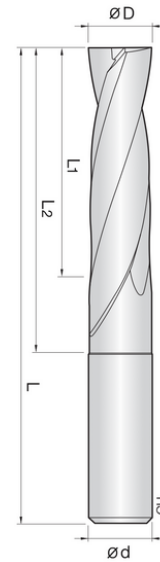
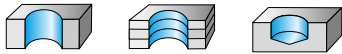


ORDER CODE	D	L1	L2	L	d
3DRX-1420-16	14,2	65	45	110	16
3DRX-1430-16	14,3	65	45	110	16
3DRX-1440-16	14,4	65	45	110	16
3DRX-1450-16	14,5	65	45	110	16
3DRX-1460-16	14,6	65	45	110	16
3DRX-1470-16	14,7	65	45	110	16
3DRX-1480-16	14,8	65	45	110	16
3DRX-1490-16	14,9	65	45	110	16
3DRX-1500-16	15	65	45	110	16
3DRX-1510-16	15,1	65	45	110	16
3DRX-1520-16	15,2	65	45	110	16
3DRX-1530-16	15,3	65	45	110	16
3DRX-1540-16	15,4	65	45	110	16
3DRX-1550-16	15,5	65	45	110	16
3DRX-1560-16	15,6	65	45	110	16
3DRX-1570-16	15,7	65	45	110	16

3DRX

2 Flutes TX Drill 3XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.



ORDER CODE	D	L1	L2	L	d
3DRX-1580-16	15,8	65	45	110	16
3DRX-1590-16	15,9	65	45	110	16
3DRX-1600-16	16	65	45	110	16
3DRX-1650-18	16,5	65	51	123	18
3DRX-1700-18	17	73	51	123	18
3DRX-1750-18	17,5	73	51	123	18
3DRX-1800-18	18	73	51	123	18
3DRX-1850-20	18,5	79	55	131	20
3DRX-1900-20	19	79	55	131	20
3DRX-1950-20	19,5	79	55	131	20
3DRX-2000-20	20	79	55	131	20

5DRW

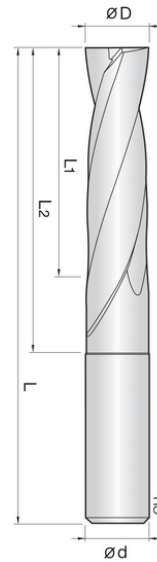
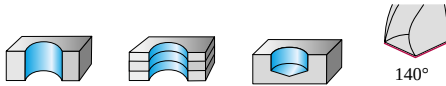
4 Flutes High Performance End Mills Z:6

Good wear resistance by high quality TISIN coating.

High precise edge tolerance.

One versatile tool concept for all applications and materials.

Roughing to finishing with different engagements in multi-material conditions.

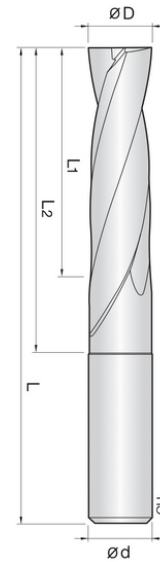
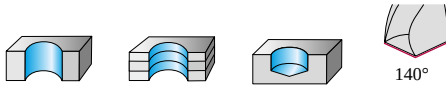


ORDER CODE	D	L1	L2	L	d
5DRW-0300-06	3	28	23	66	6
5DRW-0310-06	3,1	28	23	66	6
5DRW-0320-06	3,2	28	23	66	6
5DRW-0330-06	3,3	28	23	66	6
5DRW-0340-06	3,4	28	23	66	6
5DRW-0350-06	3,5	28	23	66	6
5DRW-0360-06	3,6	28	23	66	6
5DRW-0370-06	3,7	28	23	66	6
5DRW-0380-06	3,8	36	29	82	6
5DRW-0390-06	3,9	36	29	82	6
5DRW-0400-06	4	36	29	82	6
5DRW-0410-06	4,1	36	29	82	6
5DRW-0420-06	4,2	36	29	82	6
5DRW-0430-06	4,3	36	29	82	6
5DRW-0440-06	4,4	36	29	82	6
5DRW-0450-06	4,5	36	29	82	6

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

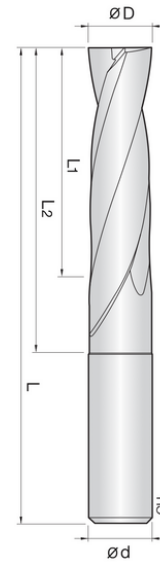
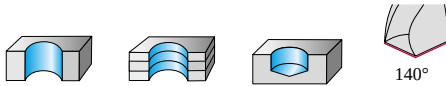


ORDER CODE	D	L1	L2	L	d
5DRW-0460-06	4,6	36	29	82	6
5DRW-0470-06	4,7	36	29	82	6
5DRW-0480-06	4,8	44	35	82	6
5DRW-0490-06	4,9	44	35	82	6
5DRW-0500-06	5	44	35	82	6
5DRW-0510-06	5,1	44	35	82	6
5DRW-0520-06	5,2	44	35	82	6
5DRW-0530-06	5,3	44	35	82	6
5DRW-0540-06	5,4	44	35	82	6
5DRW-0550-06	5,5	44	35	82	6
5DRW-0560-06	5,6	44	35	82	6
5DRW-0570-06	5,7	44	35	82	6
5DRW-0580-06	5,8	44	35	82	6
5DRW-0590-06	5,9	44	35	82	6
5DRW-0600-06	6	44	35	82	6
5DRW-0610-08	6,1	53	43	91	8

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

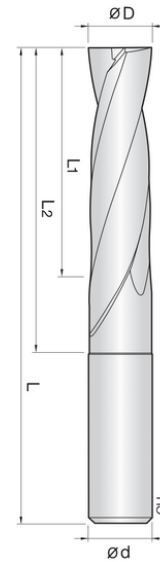
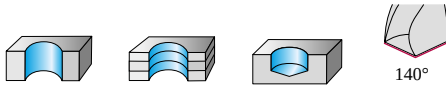


ORDER CODE	D	L1	L2	L	d
5DRW-0620-08	6,2	53	43	91	8
5DRW-0630-08	6,3	53	43	91	8
5DRW-0640-08	6,4	53	43	91	8
5DRW-0650-08	6,5	53	43	91	8
5DRW-0660-08	6,6	53	43	91	8
5DRW-0670-08	6,7	53	43	91	8
5DRW-0680-08	6,8	53	43	91	8
5DRW-0690-08	6,9	53	43	91	8
5DRW-0700-08	7	53	43	91	8
5DRW-0710-08	7,1	53	43	91	8
5DRW-0720-08	7,2	53	43	91	8
5DRW-0730-08	7,3	53	43	91	8
5DRW-0740-08	7,4	53	43	91	8
5DRW-0750-08	7,5	53	43	91	8
5DRW-0760-08	7,6	53	43	91	8
5DRW-0770-08	7,7	53	43	91	8

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



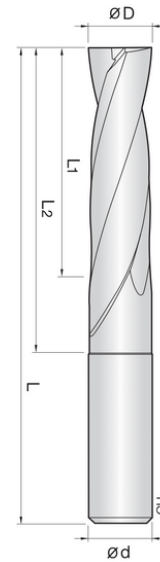
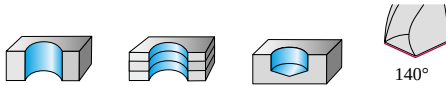
ORDER CODE	D	L1	L2	L	d
5DRW-0780-08	7,8	53	43	91	8
5DRW-0790-08	7,9	53	43	91	8
5DRW-0800-08	8	53	43	91	8
5DRW-0810-10	8,1	61	49	103	10
5DRW-0820-10	8,2	61	49	103	10
5DRW-0830-10	8,3	61	49	103	10
5DRW-0840-10	8,4	61	49	103	10
5DRW-0850-10	8,5	61	49	103	10
5DRW-0860-10	8,6	61	49	103	10
5DRW-0870-10	8,7	61	49	103	10
5DRW-0880-10	8,8	61	49	103	10
5DRW-0890-10	8,9	61	49	103	10
5DRW-0900-10	9	61	49	103	10
5DRW-0910-10	9,1	61	49	103	10
5DRW-0920-10	9,2	61	49	103	10
5DRW-0930-10	9,3	61	49	103	10

Solid Carbide Drills

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

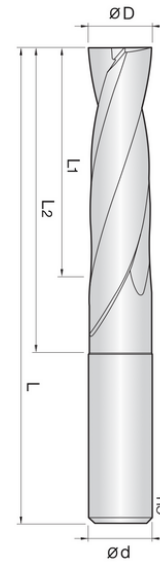
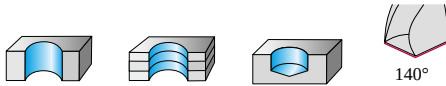


ORDER CODE	D	L1	L2	L	d
5DRW-0940-10	9,4	61	49	103	10
5DRW-0950-10	9,5	61	49	103	10
5DRW-0960-10	9,6	61	49	103	10
5DRW-0970-10	9,7	61	49	103	10
5DRW-0980-10	9,8	61	49	103	10
5DRW-0990-10	9,9	61	49	103	10
5DRW-1000-10	10	61	49	103	10
5DRW-1010-12	10,1	71	56	118	12
5DRW-1020-12	10,2	71	56	118	12
5DRW-1030-12	10,3	71	56	118	12
5DRW-1040-12	10,4	71	56	118	12
5DRW-1050-12	10,5	71	56	118	12
5DRW-1060-12	10,6	71	56	118	12
5DRW-1070-12	10,7	71	56	118	12
5DRW-1080-12	10,8	71	56	118	12
5DRW-1090-12	10,9	71	56	118	12

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



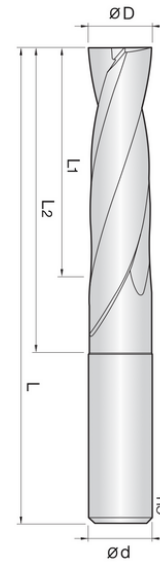
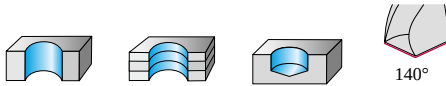
ORDER CODE	D	L1	L2	L	d
5DRW-1100-12	11	71	56	118	12
5DRW-1110-12	11,1	71	56	118	12
5DRW-1120-12	11,2	71	56	118	12
5DRW-1130-12	11,3	71	56	118	12
5DRW-1140-12	11,4	71	56	118	12
5DRW-1150-12	11,5	71	56	118	12
5DRW-1160-12	11,6	71	56	118	12
5DRW-1170-12	11,7	71	56	118	12
5DRW-1180-12	11,8	71	56	118	12
5DRW-1190-12	11,9	71	56	118	12
5DRW-1200-12	12	71	56	118	12
5DRW-1210-14	12,1	77	60	124	14
5DRW-1220-14	12,2	77	60	124	14
5DRW-1230-14	12,3	77	60	124	14
5DRW-1240-14	12,4	77	60	124	14
5DRW-1250-14	12,5	77	60	124	14

Solid Carbide Drills

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



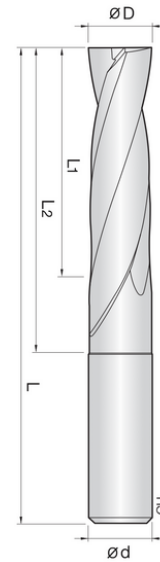
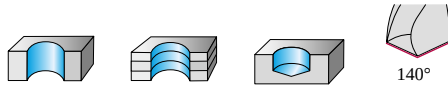
ORDER CODE	D	L1	L2	L	d
5DRW-1260-14	12,6	61	49	124	14
5DRW-1270-14	12,7	61	49	124	14
5DRW-1280-14	12,8	61	49	124	14
5DRW-1290-14	12,9	61	49	124	14
5DRW-1300-14	13	61	49	124	14
5DRW-1310-14	13,1	61	49	124	14
5DRW-1320-14	13,2	61	49	124	14
5DRW-1330-14	13,3	71	56	124	14
5DRW-1340-14	13,4	71	56	124	14
5DRW-1350-14	13,5	71	56	124	14
5DRW-1360-14	13,6	71	56	124	14
5DRW-1370-14	13,7	71	56	124	14
5DRW-1380-14	13,8	71	56	124	14
5DRW-1390-14	13,9	71	56	124	14
5DRW-1400-14	14	71	56	124	14
5DRW-1410-16	14,1	71	56	133	16

Solid Carbide Drills

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

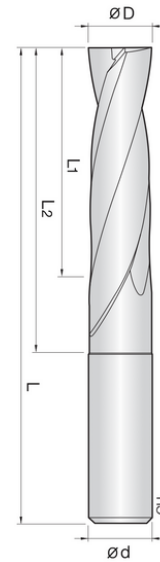
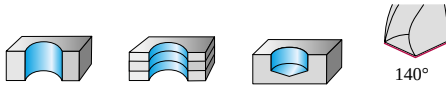


ORDER CODE	D	L1	L2	L	d
5DRW-1420-16	14,2	83	63	133	16
5DRW-1430-16	14,3	83	63	133	16
5DRW-1440-16	14,4	83	63	133	16
5DRW-1450-16	14,5	83	63	133	16
5DRW-1460-16	14,6	83	63	133	16
5DRW-1470-16	14,7	83	63	133	16
5DRW-1480-16	14,8	83	63	133	16
5DRW-1490-16	14,9	83	63	133	16
5DRW-1500-16	15	83	63	133	16
5DRW-1510-16	15,1	83	63	133	16
5DRW-1520-16	15,2	83	63	133	16
5DRW-1530-16	15,3	83	63	133	16
5DRW-1540-16	15,4	83	63	133	16
5DRW-1550-16	15,5	83	63	133	16
5DRW-1560-16	15,6	83	63	133	16
5DRW-1570-16	15,7	83	63	133	16

5DRW

2 Flutes High Performance Drill 5XD

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



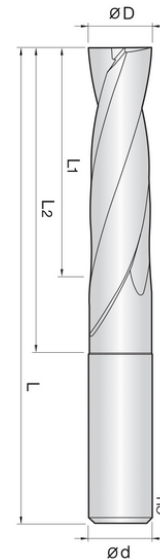
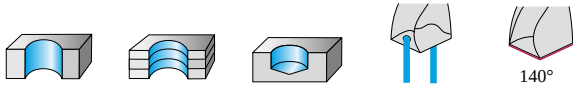
ORDER CODE	D	L1	L2	L	d
5DRW-1580-16	15,8	83	63	133	16
5DRW-1590-16	15,9	83	63	133	16
5DRW-1600-16	16	83	63	133	16
5DRW-1650-18	16,5	93	71	143	18
5DRW-1700-18	17	93	71	143	18
5DRW-1750-18	17,5	93	71	143	18
5DRW-1800-18	18	93	71	143	18
5DRW-1850-20	18,5	101	77	153	20
5DRW-1900-20	19	101	77	153	20
5DRW-1950-20	19,5	101	77	153	20
5DRW-2000-20	20	101	77	153	20

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



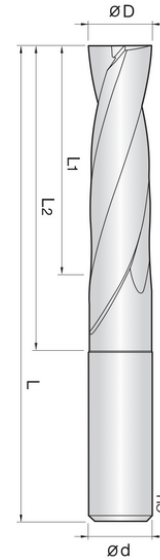
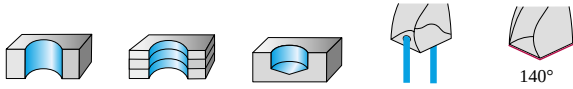
ORDER CODE	D	L1	L2	L	d
5DRC-0300-06	3	28	23	66	6
5DRC-0310-06	3,1	28	23	66	6
5DRC-0320-06	3,2	28	23	66	6
5DRC-0330-06	3,3	28	23	66	6
5DRC-0340-06	3,4	28	23	66	6
5DRC-0350-06	3,5	28	23	66	6
5DRC-0360-06	3,6	28	23	66	6
5DRC-0370-06	3,7	28	23	66	6
5DRC-0380-06	3,8	36	29	82	6
5DRC-0390-06	3,9	36	29	82	6
5DRC-0400-06	4	36	29	82	6
5DRC-0410-06	4,1	36	29	82	6
5DRC-0420-06	4,2	36	29	82	6
5DRC-0430-06	4,3	36	29	82	6
5DRC-0440-06	4,4	36	29	82	6
5DRC-0450-06	4,5	36	29	82	6

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



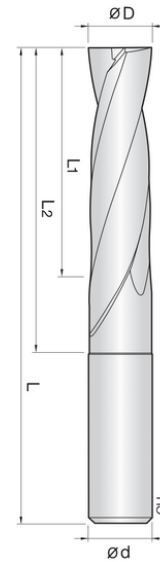
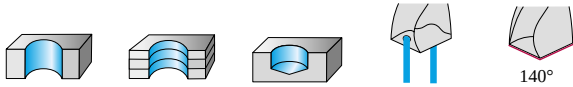
ORDER CODE	D	L1	L2	L	d
5DRC-0460-06	4,6	36	29	82	6
5DRC-0470-06	4,7	36	29	82	6
5DRC-0480-06	4,8	44	35	82	6
5DRC-0490-06	4,9	44	35	82	6
5DRC-0500-06	5	44	35	82	6
5DRC-0510-06	5,1	44	35	82	6
5DRC-0520-06	5,2	44	35	82	6
5DRC-0530-06	5,3	44	35	82	6
5DRC-0540-06	5,4	44	35	82	6
5DRC-0550-06	5,5	44	35	82	6
5DRC-0560-06	5,6	44	35	82	6
5DRC-0570-06	5,7	44	35	82	6
5DRC-0580-06	5,8	44	35	82	6
5DRC-0590-06	5,9	44	35	82	6
5DRC-0600-06	6	44	35	82	6
5DRC-0610-08	6,1	53	43	91	8

Solid Carbide Drills

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant
 Good wear resistance by high quality DOUBLEX coating.
 High precise edge tolerance.



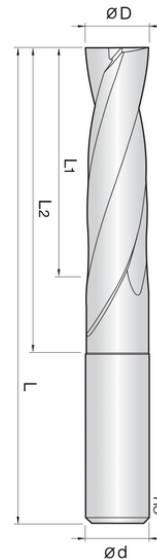
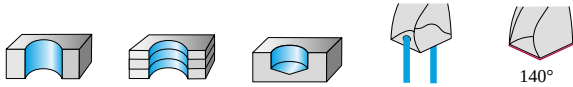
ORDER CODE	D	L1	L2	L	d
5DRC-0620-08	6,2	53	43	91	8
5DRC-0630-08	6,3	53	43	91	8
5DRC-0640-08	6,4	53	43	91	8
5DRC-0650-08	6,5	53	43	91	8
5DRC-0660-08	6,6	53	43	91	8
5DRC-0670-08	6,7	53	43	91	8
5DRC-0680-08	6,8	53	43	91	8
5DRC-0690-08	6,9	53	43	91	8
5DRC-0700-08	7	53	43	91	8
5DRC-0710-08	7,1	53	43	91	8
5DRC-0720-08	7,2	53	43	91	8
5DRC-0730-08	7,3	53	43	91	8
5DRC-0740-08	7,4	53	43	91	8
5DRC-0750-08	7,5	53	43	91	8
5DRC-0760-08	7,6	53	43	91	8
5DRC-0770-08	7,7	53	43	91	8

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



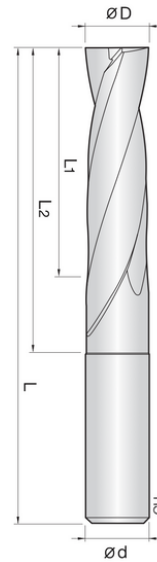
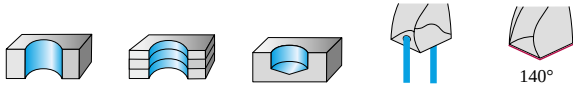
ORDER CODE	D	L1	L2	L	d
5DRC-0780-08	7,8	53	43	91	8
5DRC-0790-08	7,9	53	43	91	8
5DRC-0800-08	8	53	43	91	8
5DRC-0810-10	8,1	61	49	103	10
5DRC-0820-10	8,2	61	49	103	10
5DRC-0830-10	8,3	61	49	103	10
5DRC-0840-10	8,4	61	49	103	10
5DRC-0850-10	8,5	61	49	103	10
5DRC-0860-10	8,6	61	49	103	10
5DRC-0870-10	8,7	61	49	103	10
5DRC-0880-10	8,8	61	49	103	10
5DRC-0890-10	8,9	61	49	103	10
5DRC-0900-10	9	61	49	103	10
5DRC-0910-10	9,1	61	49	103	10
5DRC-0920-10	9,2	61	49	103	10
5DRC-0930-10	9,3	61	49	103	10

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



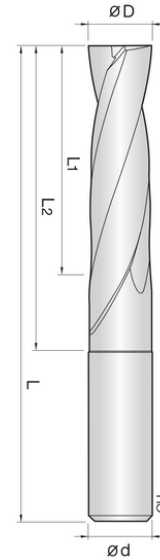
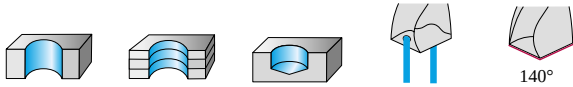
ORDER CODE	D	L1	L2	L	d
5DRC-0940-10	9,4	61	49	103	10
5DRC-0950-10	9,5	61	49	103	10
5DRC-0960-10	9,6	61	49	103	10
5DRC-0970-10	9,7	61	49	103	10
5DRC-0980-10	9,8	61	49	103	10
5DRC-0990-10	9,9	61	49	103	10
5DRC-1000-10	10	61	49	103	10
5DRC-1010-12	10,1	71	56	118	12
5DRC-1020-12	10,2	71	56	118	12
5DRC-1030-12	10,3	71	56	118	12
5DRC-1040-12	10,4	71	56	118	12
5DRC-1050-12	10,5	71	56	118	12
5DRC-1060-12	10,6	71	56	118	12
5DRC-1070-12	10,7	71	56	118	12
5DRC-1080-12	10,8	71	56	118	12
5DRC-1090-12	10,9	71	56	118	12

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



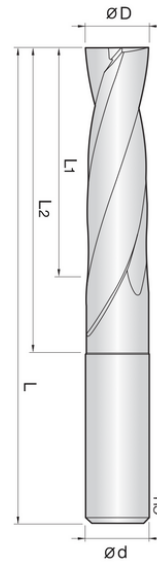
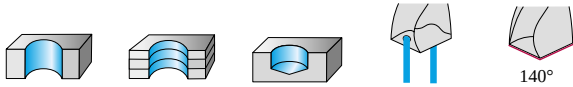
ORDER CODE	D	L1	L2	L	d
5DRC-1100-12	11	71	56	118	12
5DRC-1110-12	11,1	71	56	118	12
5DRC-1120-12	11,2	71	56	118	12
5DRC-1130-12	11,3	71	56	118	12
5DRC-1140-12	11,4	71	56	118	12
5DRC-1150-12	11,5	71	56	118	12
5DRC-1160-12	11,6	71	56	118	12
5DRC-1170-12	11,7	71	56	118	12
5DRC-1180-12	11,8	71	56	118	12
5DRC-1190-12	11,9	71	56	118	12
5DRC-1200-12	12	71	56	118	12
5DRC-1210-14	12,1	77	60	124	14
5DRC-1220-14	12,2	77	60	124	14
5DRC-1230-14	12,3	77	60	124	14
5DRC-1240-14	12,4	77	60	124	14
5DRC-1250-14	12,5	77	60	124	14

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



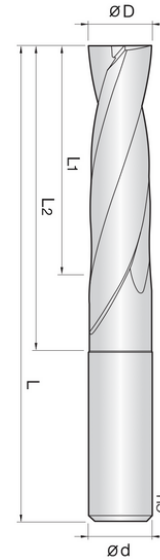
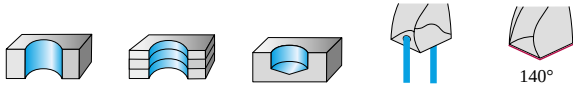
ORDER CODE	D	L1	L2	L	d
5DRC-1260-14	12,6	61	49	124	14
5DRC-1270-14	12,7	61	49	124	14
5DRC-1280-14	12,8	61	49	124	14
5DRC-1290-14	12,9	61	49	124	14
5DRC-1300-14	13	61	49	124	14
5DRC-1310-14	13,1	61	49	124	14
5DRC-1320-14	13,2	61	49	124	14
5DRC-1330-14	13,3	71	56	124	14
5DRC-1340-14	13,4	71	56	124	14
5DRC-1350-14	13,5	71	56	124	14
5DRC-1360-14	13,6	71	56	124	14
5DRC-1370-14	13,7	71	56	124	14
5DRC-1380-14	13,8	71	56	124	14
5DRC-1390-14	13,9	71	56	124	14
5DRC-1400-14	14	71	56	124	14
5DRC-1410-16	14,1	71	56	133	16

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



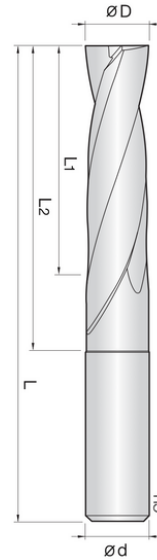
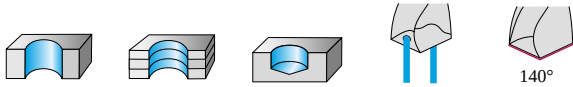
ORDER CODE	D	L1	L2	L	d
5DRC-1420-16	14,2	83	63	133	16
5DRC-1430-16	14,3	83	63	133	16
5DRC-1440-16	14,4	83	63	133	16
5DRC-1450-16	14,5	83	63	133	16
5DRC-1460-16	14,6	83	63	133	16
5DRC-1470-16	14,7	83	63	133	16
5DRC-1480-16	14,8	83	63	133	16
5DRC-1490-16	14,9	83	63	133	16
5DRC-1500-16	15	83	63	133	16
5DRC-1510-16	15,1	83	63	133	16
5DRC-1520-16	15,2	83	63	133	16
5DRC-1530-16	15,3	83	63	133	16
5DRC-1540-16	15,4	83	63	133	16
5DRC-1550-16	15,5	83	63	133	16
5DRC-1560-16	15,6	83	63	133	16
5DRC-1570-16	15,7	83	63	133	16

5DRC



2 Flutes High Performance Drill 5XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.

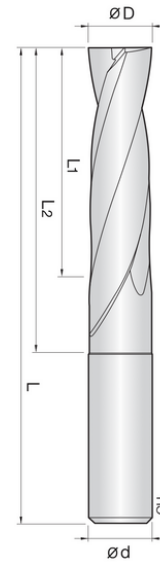
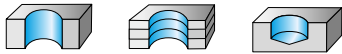


ORDER CODE	D	L1	L2	L	d
5DRC-1580-16	15,8	83	63	133	16
5DRC-1590-16	15,9	83	63	133	16
5DRC-1600-16	16	83	63	133	16
5DRC-1650-18	16,5	93	71	143	18
5DRC-1700-18	17	93	71	143	18
5DRC-1750-18	17,5	93	71	143	18
5DRC-1800-18	18	93	71	143	18
5DRC-1850-20	18,5	101	77	153	20
5DRC-1900-20	19	101	77	153	20
5DRC-1950-20	19,5	101	77	153	20
5DRC-2000-20	20	101	77	153	20

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

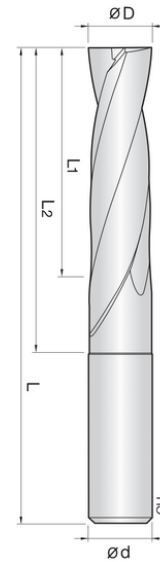
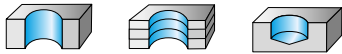


ORDER CODE	D	L1	L2	L	d
5DRX-0300-06	3	28	23	66	6
5DRX-0310-06	3,1	28	23	66	6
5DRX-0320-06	3,2	28	23	66	6
5DRX-0330-06	3,3	28	23	66	6
5DRX-0340-06	3,4	28	23	66	6
5DRX-0350-06	3,5	28	23	66	6
5DRX-0360-06	3,6	28	23	66	6
5DRX-0370-06	3,7	28	23	66	6
5DRX-0380-06	3,8	36	29	82	6
5DRX-0390-06	3,9	36	29	82	6
5DRX-0400-06	4	36	29	82	6
5DRX-0410-06	4,1	36	29	82	6
5DRX-0420-06	4,2	36	29	82	6
5DRX-0430-06	4,3	36	29	82	6
5DRX-0440-06	4,4	36	29	82	6
5DRX-0450-06	4,5	36	29	82	6

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

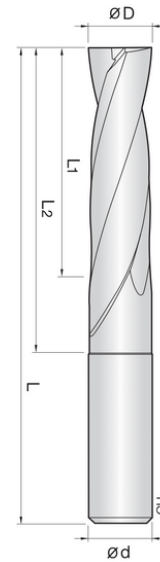
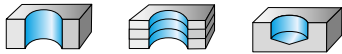


ORDER CODE	D	L1	L2	L	d
5DRX-0460-06	4,6	36	29	82	6
5DRX-0470-06	4,7	36	29	82	6
5DRX-0480-06	4,8	44	35	82	6
5DRX-0490-06	4,9	44	35	82	6
5DRX-0500-06	5	44	35	82	6
5DRX-0510-06	5,1	44	35	82	6
5DRX-0520-06	5,2	44	35	82	6
5DRX-0530-06	5,3	44	35	82	6
5DRX-0540-06	5,4	44	35	82	6
5DRX-0550-06	5,5	44	35	82	6
5DRX-0560-06	5,6	44	35	82	6
5DRX-0570-06	5,7	44	35	82	6
5DRX-0580-06	5,8	44	35	82	6
5DRX-0590-06	5,9	44	35	82	6
5DRX-0600-06	6	44	35	82	6
5DRX-0610-08	6,1	53	43	91	8

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

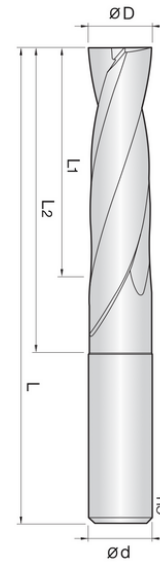


ORDER CODE	D	L1	L2	L	d
5DRX-0620-08	6,2	53	43	91	8
5DRX-0630-08	6,3	53	43	91	8
5DRX-0640-08	6,4	53	43	91	8
5DRX-0650-08	6,5	53	43	91	8
5DRX-0660-08	6,6	53	43	91	8
5DRX-0670-08	6,7	53	43	91	8
5DRX-0680-08	6,8	53	43	91	8
5DRX-0690-08	6,9	53	43	91	8
5DRX-0700-08	7	53	43	91	8
5DRX-0710-08	7,1	53	43	91	8
5DRX-0720-08	7,2	53	43	91	8
5DRX-0730-08	7,3	53	43	91	8
5DRX-0740-08	7,4	53	43	91	8
5DRX-0750-08	7,5	53	43	91	8
5DRX-0760-08	7,6	53	43	91	8
5DRX-0770-08	7,7	53	43	91	8

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

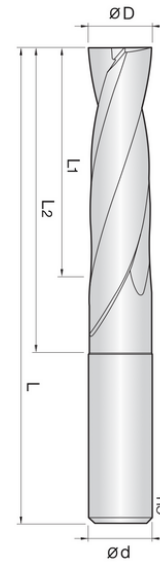
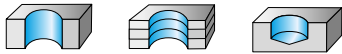


ORDER CODE	D	L1	L2	L	d
5DRX-0780-08	7,8	53	43	91	8
5DRX-0790-08	7,9	53	43	91	8
5DRX-0800-08	8	53	43	91	8
5DRX-0810-10	8,1	61	49	103	10
5DRX-0820-10	8,2	61	49	103	10
5DRX-0830-10	8,3	61	49	103	10
5DRX-0840-10	8,4	61	49	103	10
5DRX-0850-10	8,5	61	49	103	10
5DRX-0860-10	8,6	61	49	103	10
5DRX-0870-10	8,7	61	49	103	10
5DRX-0880-10	8,8	61	49	103	10
5DRX-0890-10	8,9	61	49	103	10
5DRX-0900-10	9	61	49	103	10
5DRX-0910-10	9,1	61	49	103	10
5DRX-0920-10	9,2	61	49	103	10
5DRX-0930-10	9,3	61	49	103	10

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

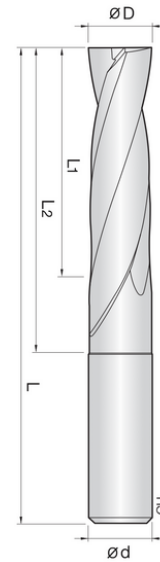


ORDER CODE	D	L1	L2	L	d
5DRX-0940-10	9,4	61	49	103	10
5DRX-0950-10	9,5	61	49	103	10
5DRX-0960-10	9,6	61	49	103	10
5DRX-0970-10	9,7	61	49	103	10
5DRX-0980-10	9,8	61	49	103	10
5DRX-0990-10	9,9	61	49	103	10
5DRX-1000-10	10	61	49	103	10
5DRX-1010-12	10,1	71	56	118	12
5DRX-1020-12	10,2	71	56	118	12
5DRX-1030-12	10,3	71	56	118	12
5DRX-1040-12	10,4	71	56	118	12
5DRX-1050-12	10,5	71	56	118	12
5DRX-1060-12	10,6	71	56	118	12
5DRX-1070-12	10,7	71	56	118	12
5DRX-1080-12	10,8	71	56	118	12
5DRX-1090-12	10,9	71	56	118	12

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

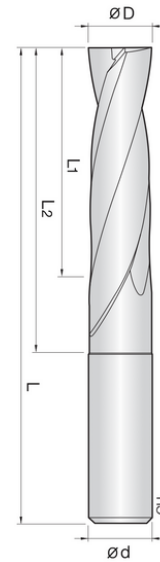
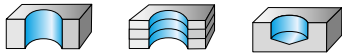


ORDER CODE	D	L1	L2	L	d
5DRX-1100-12	11	71	56	118	12
5DRX-1110-12	11,1	71	56	118	12
5DRX-1120-12	11,2	71	56	118	12
5DRX-1130-12	11,3	71	56	118	12
5DRX-1140-12	11,4	71	56	118	12
5DRX-1150-12	11,5	71	56	118	12
5DRX-1160-12	11,6	71	56	118	12
5DRX-1170-12	11,7	71	56	118	12
5DRX-1180-12	11,8	71	56	118	12
5DRX-1190-12	11,9	71	56	118	12
5DRX-1200-12	12	71	56	118	12
5DRX-1210-14	12,1	77	60	124	14
5DRX-1220-14	12,2	77	60	124	14
5DRX-1230-14	12,3	77	60	124	14
5DRX-1240-14	12,4	77	60	124	14
5DRX-1250-14	12,5	77	60	124	14

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

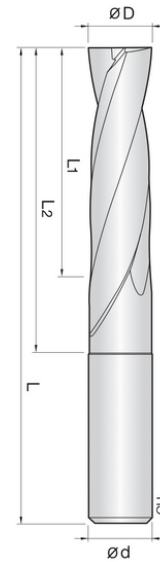
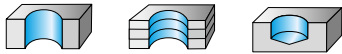


ORDER CODE	D	L1	L2	L	d
5DRX-1260-14	12,6	61	49	124	14
5DRX-1270-14	12,7	61	49	124	14
5DRX-1280-14	12,8	61	49	124	14
5DRX-1290-14	12,9	61	49	124	14
5DRX-1300-14	13	61	49	124	14
5DRX-1310-14	13,1	61	49	124	14
5DRX-1320-14	13,2	61	49	124	14
5DRX-1330-14	13,3	71	56	124	14
5DRX-1340-14	13,4	71	56	124	14
5DRX-1350-14	13,5	71	56	124	14
5DRX-1360-14	13,6	71	56	124	14
5DRX-1370-14	13,7	71	56	124	14
5DRX-1380-14	13,8	71	56	124	14
5DRX-1390-14	13,9	71	56	124	14
5DRX-1400-14	14	71	56	124	14
5DRX-1410-16	14,1	71	56	133	16

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.

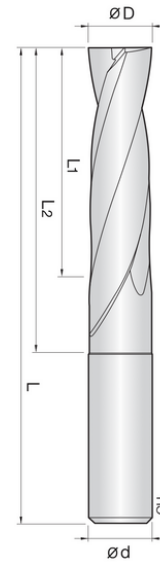


ORDER CODE	D	L1	L2	L	d
5DRX-1420-16	14,2	83	63	133	16
5DRX-1430-16	14,3	83	63	133	16
5DRX-1440-16	14,4	83	63	133	16
5DRX-1450-16	14,5	83	63	133	16
5DRX-1460-16	14,6	83	63	133	16
5DRX-1470-16	14,7	83	63	133	16
5DRX-1480-16	14,8	83	63	133	16
5DRX-1490-16	14,9	83	63	133	16
5DRX-1500-16	15	83	63	133	16
5DRX-1510-16	15,1	83	63	133	16
5DRX-1520-16	15,2	83	63	133	16
5DRX-1530-16	15,3	83	63	133	16
5DRX-1540-16	15,4	83	63	133	16
5DRX-1550-16	15,5	83	63	133	16
5DRX-1560-16	15,6	83	63	133	16
5DRX-1570-16	15,7	83	63	133	16

5DRX

2 Flutes TX Drill 5XD

TX drills with through coolant for close tolerance holes.
Two cutting edges with straight flutes for precise shape of the hole even if used as platform for complex step drills.



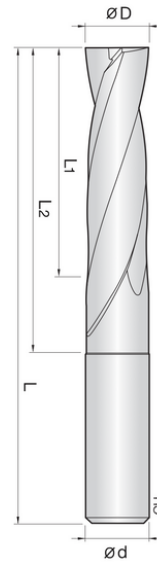
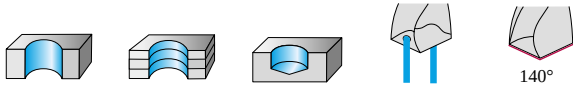
ORDER CODE	D	L1	L2	L	d
5DRX-1580-16	15,8	83	63	133	16
5DRX-1590-16	15,9	83	63	133	16
5DRX-1600-16	16	83	63	133	16
5DRX-1650-18	16,5	93	71	143	18
5DRX-1700-18	17	93	71	143	18
5DRX-1750-18	17,5	93	71	143	18
5DRX-1800-18	18	93	71	143	18
5DRX-1850-20	18,5	101	77	153	20
5DRX-1900-20	19	101	77	153	20
5DRX-1950-20	19,5	101	77	153	20
5DRX-2000-20	20	101	77	153	20

8DRC



2 Flutes High Performance Drill 8XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



ORDER CODE	D	L1	L2	L	d
8DRC-0400-06	4	50	44	97	6
8DRC-0410-06	4,1	50	44	97	6
8DRC-0450-06	4,5	50	44	97	6
8DRC-0490-06	4,9	57	49	97	6
8DRC-0500-06	5	57	49	97	6
8DRC-0510-06	5,1	57	49	97	6
8DRC-0550-06	5,5	57	49	97	6
8DRC-0590-06	5,9	57	49	97	6
8DRC-0600-06	6	57	49	97	6
8DRC-0610-08	6,1	66	57	110	8
8DRC-0650-08	6,5	66	57	110	8
8DRC-0690-08	6,9	66	57	110	8
8DRC-0700-08	7	66	57	110	8
8DRC-0710-08	7,1	72	66	110	8
8DRC-0750-08	7,5	72	66	110	8
8DRC-0790-08	7,9	72	66	110	8

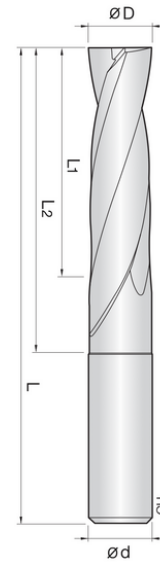
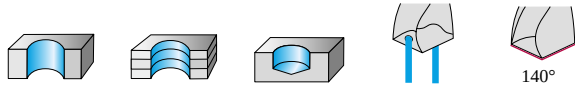
Solid Carbide Drills

8DRC



2 Flutes High Performance Drill 8XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



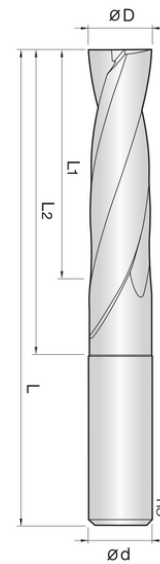
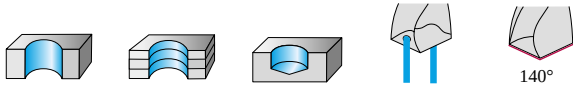
ORDER CODE	D	L1	L2	L	d
8DRC-0800-08	8	72	66	110	8
8DRC-0810-10	8,1	95	85	139	10
8DRC-0850-10	8,5	95	85	139	10
8DRC-0890-10	8,9	95	85	139	10
8DRC-0900-10	9	95	85	139	10
8DRC-0910-10	9,1	95	85	139	10
8DRC-0950-10	9,5	95	85	139	10
8DRC-0990-10	9,9	95	85	139	10
8DRC-1000-10	10	95	85	139	10
8DRC-1010-12	10,1	114	96	163	12
8DRC-1050-12	10,5	114	96	163	12
8DRC-1090-12	10,9	114	96	163	12
8DRC-1100-12	11	114	96	163	12
8DRC-1110-12	11,1	114	96	163	12
8DRC-1150-12	11,5	114	96	163	12
8DRC-1190-12	11,9	114	96	163	12

8DRC



2 Flutes High Performance Drill 8XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



ORDER CODE	D	L1	L2	L	d
8DRC-1200-12	12	114	96	163	12
8DRC-1210-14	12,1	133	115	182	14
8DRC-1290-14	12,9	133	115	182	14
8DRC-1300-14	13	133	115	182	14
8DRC-1310-14	13,1	133	115	182	14
8DRC-1390-14	13,9	133	115	182	14
8DRC-1400-14	14	133	115	182	14
8DRC-1410-16	14,1	152	130	204	16
8DRC-1450-16	14,5	152	130	204	16
8DRC-1490-16	14,9	152	130	204	16
8DRC-1500-16	15	152	130	204	16
8DRC-1530-16	15,3	152	130	204	16
8DRC-1550-16	15,5	152	130	204	16
8DRC-1590-16	15,9	152	130	204	16
8DRC-1600-16	16	152	130	204	16
8DRC-1650-18	16,5	171	144	223	18

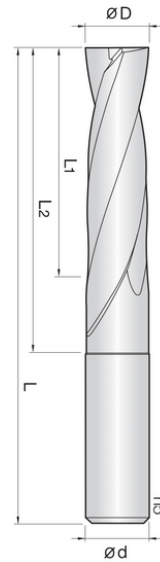
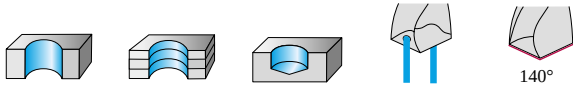
Solid Carbide Drills

8DRC



2 Flutes High Performance Drill 8XD Internal Coolant

Good wear resistance by high quality DOUBLEX coating.
High precise edge tolerance.



ORDER CODE	D	L1	L2	L	d
8DRC-1700-18	17	171	144	223	18
8DRC-1750-18	17,5	171	144	223	18
8DRC-1800-18	18	171	144	223	18
8DRC-1850-20	18,5	190	160	244	20
8DRC-1900-20	19	190	160	244	20
8DRC-1950-20	19,5	190	160	244	20
8DRC-2000-20	20	190	160	244	20

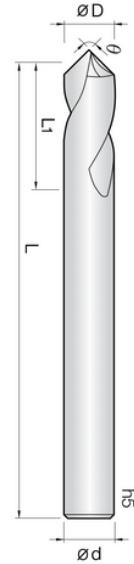
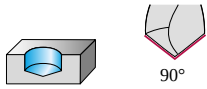
2NCD

2 Flutes NC Spotting Drill

Good wear resistance by high quality TiAlN coating.

High precise edge tolerance.

Optimum for centering with helix 2flutes.



ORDER CODE	D	L1	L2	L	A°	d
2NCD-040-090-04	4	10	4	55	90	4
2NCD-040-120-04	4	10	4	55	120	4
2NCD-060-090-06	6	13	6	55	90	6
2NCD-060-120-06	6	13	6	55	120	6
2NCD-080-090-08	8	19	8	63	90	8
2NCD-080-120-08	8	19	8	63	120	8
2NCD-100-090-10	10	23	10	72	90	10
2NCD-100-120-10	10	23	10	72	120	10
2NCD-120-090-12	12	30	12	82	90	12
2NCD-120-120-12	12	30	12	82	120	12
2NCD-140-090-14	14	30	14	82	90	14
2NCD-140-120-14	14	30	14	82	120	14
2NCD-160-090-16	16	35	16	110	90	16
2NCD-160-120-16	16	35	16	110	120	16
2NCD-200-090-20	20	40	20	105	90	20
2NCD-200-120-20	20	40	20	105	120	20

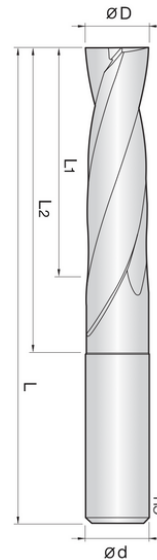
5RME

5 Flutes High Precision Reamers

Good wear resistance by high quality MICRO TiAlN coating.

High precise edge tolerance.

For hole tolerance H7.

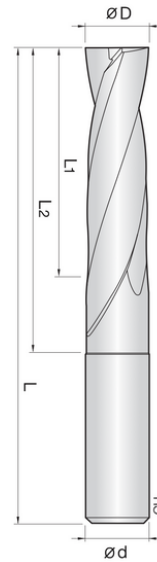


ORDER CODE	D	L1	L2	L	d	Z
5RME-030-200-03	3	20	10	65	3	5
5RME-030-300-82	3	30	15	82	3	5
5RME-030-500-110	3	50	15	110	3	5
5RME-040-200-04	4	20	15	65	4	5
5RME-040-300-82	4	30	15	82	4	5
5RME-040-500-110	4	50	15	110	4	5
5RME-050-200-05	5	20	15	65	6	5
5RME-050-300-82	5	30	15	82	6	5
5RME-050-500-110	5	50	15	110	6	5
5RME-060-200-06	6	10	20	65	6	5
5RME-060-300-82	6	15	30	82	6	5
5RME-060-500-110	6	15	50	110	6	5
5RME-060-500-150	6	15	50	150	6	5
6RME-080-250-08	8	10	25	65	8	6
6RME-080-300-08	8	15	30	82	8	6
6RME-080-500-08	8	20	50	110	8	6

5RME

5 Flutes High Precision Reamers

Good wear resistance by high quality MICRO TiAlN coating.
High precise edge tolerance.
For hole tolerance H7.



ORDER CODE	D	L1	L2	L	d	Z
6RME-080-500-08	8	25	50	150	8	6
6RME-100-400-10	10	20	40	72	10	6
6RME-100-500-110	10	20	50	110	10	6
6RME-100-600-150	10	30	60	150	10	6
6RME-120-400-12	12	20	40	82	12	6
6RME-120-600-12	12	25	60	110	12	6
6RME-120-600-150	12	30	60	150	12	6
6RME-140-400-14	14	20	40	82	14	6
6RME-140-600-110	14	30	60	110	14	6
6RME-140-800-150	14	40	80	150	14	6
6RME-160-600-16	16	30	60	110	16	6
6RME-160-800-150	16	40	80	150	16	6
6RME-180-600-18	18	30	60	110	18	6
6RME-180-800-18	18	40	80	150	18	6
6RME-200-600-20	20	30	60	110	20	6
6RME-200-800-20	20	40	80	150	20	6

4CSEE / 4CSE / 4CLE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-	0,011-0.032	-	-	-
4	0.014-0.042	-	0,013-0.039	-	-	-
5	0.02-0.075	-	0,021-0.071	-	-	-
6	0.02-0.08	-	0,022-0.075	-	-	-
8	0,042-0.096	-	0,039-0.091	-	-	-
10	0,052-0.105	-	0,049-0.101	-	-	-
12	0,062-0.115	-	0,059-0.11	-	-	-
14	0,075-0.121	-	0,072 -0.118	-	-	-
16	0,079-0.133	-	0,075-0.131	-	-	-
18	0,083-0.138	-	0,081-0.136	-	-	-
20	0,093-0.145	-	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	100 140 200	-	-	-

4CSC / 4CLC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-	0,011-0.032	-	-	-
4	0.014-0.042	-	0,013-0.039	-	-	-
5	0.02-0.075	-	0,021-0.071	-	-	-
6	0.02-0.08	-	0,022-0.075	-	-	-
8	0,042-0.096	-	0,039-0.091	-	-	-
10	0,052-0.105	-	0,049-0.101	-	-	-
12	0,062-0.115	-	0,059-0.11	-	-	-
14	0,075-0.121	-	0,072 -0.118	-	-	-
16	0,079-0.133	-	0,075-0.131	-	-	-
18	0,083-0.138	-	0,081-0.136	-	-	-
20	0,093-0.145	-	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	100 140 200	-	-	-

2MCE / 2MCB / 2CTB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
0,5	0,022	0,01		-	0,01	0,022
1	0,022	0,011		-	0,011	0,022
1,5	0,022	0,021		-	0,021	0,022
2	0,022	0,022		-	0,022	0,022
2,5	0,022	0,035		-	0,035	0,022
3	0,022	0,045		-	0,045	0,022
	-	-		-	-	-
	-	-		-	-	-
	-	-		-	-	-
	-	-		-	-	-
	-	-		-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
50 80 150	40 80 120		-	40 80 120	40 50 80

2CSB / 2CLB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-	0,011-0.032	-	-	-
4	0.014-0.042	-	0,013-0.039	-	-	-
5	0.02-0.075	-	0,021-0.071	-	-	-
6	0.02-0.08	-	0,022-0.075	-	-	-
8	0,042-0.096	-	0,039-0.091	-	-	-
10	0,052-0.105	-	0,049-0.101	-	-	-
12	0,062-0.115	-	0,059-0.11	-	-	-
14	0,075-0.121	-	0,072 -0.118	-	-	-
16	0,079-0.133	-	0,075-0.131	-	-	-
18	0,083-0.138	-	0,081-0.136	-	-	-
20	0,093-0.145	-	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	100 140 200	-	-	-

4CSB / 4CLB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-	0,011-0.032	-	-	-
4	0.014-0.042	-	0,013-0.039	-	-	-
5	0.02-0.075	-	0,021-0.071	-	-	-
6	0.02-0.08	-	0,022-0.075	-	-	-
8	0,042-0.096	-	0,039-0.091	-	-	-
10	0,052-0.105	-	0,049-0.101	-	-	-
12	0,062-0.115	-	0,059-0.11	-	-	-
14	0,075-0.121	-	0,072 -0.118	-	-	-
16	0,079-0.133	-	0,075-0.131	-	-	-
18	0,083-0.138	-	0,081-0.136	-	-	-
20	0,093-0.145	-	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	100 140 200	-	-	-

4MSE / 4MLE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	0,006		-	0,014	-
4	-	0,007		-	0,015	-
5	-	0,009		-	0,024	-
6	-	0,016		-	0,025	-
8	-	0,019		-	0,042	-
10	-	0,025		-	0,052	-
12	-	0,033		-	0,062	-
14	-	0,042		-	0,075	-
16	-	0,051		-	0,079	-
18	-	0,063		-	0,083	-
20	-	0,077		-	0,093	-

Speed (Vc in m/min)

P	M	K	N	S	H
-	50 80 200	-	-	120 160 220	-

4DSE / 4CHE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0,01-0,024	-		-	-	0,021
4	0,011-0,028	-		-	-	0,025
5	0,021-0,041	-		-	-	0,041
6	0,022-0,043	-		-	-	0,045
8	0,035-0,055	-		-	-	0,061
10	0,045-0,063	-		-	-	0,073
12	0,052-0,076	-		-	-	0,083
14	0,068-0,088	-		-	-	0,091
16	0,071-0,093	-		-	-	0,098
18	0,076-0,102	-		-	-	0,103
20	0,086-0,104	-		-	-	0,111

Speed (Vc in m/min)

P	M	K	N	S	H
120 180 240	-	-	-	-	100 140 200

4SXE /4SXC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	-	-	0,014	
4	0.014-0.042	0,007	-	-	0,015	
5	0.02-0.075	0,009	-	-	0,024	
6	0.02-0.08	0,016	-	-	0,025	
8	0,042-0.096	0,019	-	-	0,042	
10	0,052-0.105	0,025	-	-	0,052	
12	0,062-0.115	0,033	-	-	0,062	
14	0,075-0.121	0,042	-	-	0,075	
16	0,079-0.133	0,051	-	-	0,079	
18	0,083-0.138	0,063	-	-	0,083	
20	0,093-0.145	0,077	-	-	0,093	

Speed (Vc in m/min)

P	M	K	N	S	H
120 180 240	50 80 200	-	-	120 160 220	-

4SWE / 4SWC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	-	-	-	-	0,021
4	-	-	-	-	-	0,025
5	-	-	-	-	-	0,041
6	-	-	-	-	-	0,045
8	-	-	-	-	-	0,061
10	-	-	-	-	-	0,073
12	-	-	-	-	-	0,083
14	-	-	-	-	-	0,091
16	-	-	-	-	-	0,098
18	-	-	-	-	-	0,103
20	-	-	-	-	-	0,111

Speed (Vc in m/min)

P	M	K	N	S	H
-	-	-	-	-	100 140 200

5CHE / 6MSE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-		-	-	-
4	0.014-0.042	-		-	-	-
5	0.02-0.075	-		-	-	-
6	0.02-0.08	-		-	-	-
8	0,042-0.096	-		-	-	-
10	0,052-0.105	-		-	-	-
12	0,062-0.115	-		-	-	-
14	0,075-0.121	-		-	-	-
16	0,079-0.133	-		-	-	-
18	0,083-0.138	-		-	-	-
20	0,093-0.145	-		-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	-	-	-	-

4CRE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	-	0,011-0.032	-	-	-
4	0.014-0.042	-	0,013-0.039	-	-	-
5	0.02-0.075	-	0,021-0.071	-	-	-
6	0.02-0.08	-	0,022-0.075	-	-	-
8	0,042-0.096	-	0,039-0.091	-	-	-
10	0,052-0.105	-	0,049-0.101	-	-	-
12	0,062-0.115	-	0,059-0.11	-	-	-
14	0,075-0.121	-	0,072 -0.118	-	-	-
16	0,079-0.133	-	0,075-0.131	-	-	-
18	0,083-0.138	-	0,081-0.136	-	-	-
20	0,093-0.145	-	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	-	100 140 200	-	-	-

2SXB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	-	-	0,014	
4	0.014-0.042	0,007	-	-	0,015	
5	0.02-0.075	0,009	-	-	0,024	
6	0.02-0.08	0,016	-	-	0,025	
8	0.042-0.096	0,019	-	-	0,042	
10	0.052-0.105	0,025	-	-	0,052	
12	0.062-0.115	0,033	-	-	0,062	
14	0.075-0.121	0,042	-	-	0,075	
16	0.079-0.133	0,051	-	-	0,079	
18	0.083-0.138	0,063	-	-	0,083	
20	0.093-0.145	0,077	-	-	0,093	

Speed (Vc in m/min)

P	M	K	N	S	H
120 180 240	50 80 200	-	-	120 160 220	-

2SHB / 2CHB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	-	-	-	-	0,021
4	-	-	-	-	-	0,025
5	-	-	-	-	-	0,041
6	-	-	-	-	-	0,045
8	-	-	-	-	-	0,061
10	-	-	-	-	-	0,073
12	-	-	-	-	-	0,083
14	-	-	-	-	-	0,091
16	-	-	-	-	-	0,098
18	-	-	-	-	-	0,103
20	-	-	-	-	-	0,111

Speed (Vc in m/min)

P	M	K	N	S	H
-	-	-	-	-	100 140 200

4HSC / 4HLC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0,01-0,024	-		-	-	0,021
4	0,011-0,028	-		-	-	0,025
5	0,021-0,041	-		-	-	0,041
6	0,022-0,043	-		-	-	0,045
8	0,035-0,055	-		-	-	0,061
10	0,045-0,063	-		-	-	0,073
12	0,052-0,076	-		-	-	0,083
14	0,068-0,088	-		-	-	0,091
16	0,071-0,093	-		-	-	0,098
18	0,076-0,102	-		-	-	0,103
20	0,086-0,104	-		-	-	0,111

Speed (Vc in m/min)

P	M	K	N	S	H
120 180 240	-	-	-	-	100 140 200

4HFC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	-	-	0,014	0,021
4	0.014-0.042	0,007	-	-	0,015	0,025
5	0.02-0.075	0,009	-	-	0,024	0,041
6	0.02-0.08	0,016	-	-	0,025	0,045
8	0.042-0.096	0,019	-	-	0,042	0,061
10	0.052-0.105	0,025	-	-	0,052	0,073
12	0.062-0.115	0,033	-	-	0,062	0,083
14	0.075-0.121	0,042	-	-	0,075	0,091
16	0.079-0.133	0,051	-	-	0,079	0,098
18	0.083-0.138	0,063	-	-	0,083	0,103
20	0.093-0.145	0,077	-	-	0,093	0,111

Speed (Vc in m/min)

P	M	K	N	S	H
120 180 240	50 80 200	-	-	120 160 220	100 140 200

2ASE / 2SNE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	-	-	0,051	-	-
4	-	-	-	0,055	-	-
5	-	-	-	0,061	-	-
6	-	-	-	0,069	-	-
8	-	-	-	0,075	-	-
10	-	-	-	0,085	-	-
12	-	-	-	0,092	-	-
14	-	-	-	0,098	-	-
16	-	-	-	0,102	-	-
18	-	-	-	0,105	-	-
20	-	-	-	0,114	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
-	-	-	150 300 450	-	-

3ASE / 3SNE / 3 ALE / 3AZE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	-	-	0,051	-	-
4	-	-	-	0,055	-	-
5	-	-	-	0,061	-	-
6	-	-	-	0,069	-	-
8	-	-	-	0,075	-	-
10	-	-	-	0,085	-	-
12	-	-	-	0,092	-	-
14	-	-	-	0,098	-	-
16	-	-	-	0,102	-	-
18	-	-	-	0,105	-	-
20	-	-	-	0,114	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
-	-	-	150 300 450	-	-

2ASB / 2ALB

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	-	-	-	0,051	-	-
4	-	-	-	0,055	-	-
5	-	-	-	0,061	-	-
6	-	-	-	0,069	-	-
8	-	-	-	0,075	-	-
10	-	-	-	0,085	-	-
12	-	-	-	0,092	-	-
14	-	-	-	0,098	-	-
16	-	-	-	0,102	-	-
18	-	-	-	0,105	-	-
20	-	-	-	0,114	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
-	-	-	150 300 450	-	-

4CRC

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	0,011-0.032	-	-	-
4	0.014-0.042	0,007	0,013-0.039	-	-	-
5	0.02-0.075	0,009	0,021-0.071	-	-	-
6	0.02-0.08	0,016	0,022-0.075	-	-	-
8	0,042-0.096	0,019	0,039-0.091	-	-	-
10	0,052-0.105	0,025	0,049-0.101	-	-	-
12	0,062-0.115	0,033	0,059-0.11	-	-	-
14	0,075-0.121	0,042	0,072 -0.118	-	-	-
16	0,079-0.133	0,051	0,075-0.131	-	-	-
18	0,083-0.138	0,063	0,081-0.136	-	-	-
20	0,093-0.145	0,077	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	50 80 200	100 140 200	-	-	-

4TSE

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	0,011-0.032	-	-	-
4	0.014-0.042	0,007	0,013-0.039	-	-	-
5	0.02-0.075	0,009	0,021-0.071	-	-	-
6	0.02-0.08	0,016	0,022-0.075	-	-	-
8	0,042-0.096	0,019	0,039-0.091	-	-	-
10	0,052-0.105	0,025	0,049-0.101	-	-	-
12	0,062-0.115	0,033	0,059-0.11	-	-	-
14	0,075-0.121	0,042	0,072 -0.118	-	-	-
16	0,079-0.133	0,051	0,075-0.131	-	-	-
18	0,083-0.138	0,063	0,081-0.136	-	-	-
20	0,093-0.145	0,077	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	50 80 200	100 140 200	-	-	-

3TMM / 3TUC / 3TUF

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0.01-0.04	0,006	0,011-0.032	-	-	-
4	0.014-0.042	0,007	0,013-0.039	-	-	-
5	0.02-0.075	0,009	0,021-0.071	-	-	-
6	0.02-0.08	0,016	0,022-0.075	-	-	-
8	0,042-0.096	0,019	0,039-0.091	-	-	-
10	0,052-0.105	0,025	0,049-0.101	-	-	-
12	0,062-0.115	0,033	0,059-0.11	-	-	-
14	0,075-0.121	0,042	0,072 -0.118	-	-	-
16	0,079-0.133	0,051	0,075-0.131	-	-	-
18	0,083-0.138	0,063	0,081-0.136	-	-	-
20	0,093-0.145	0,077	0,091-0.141	-	-	-

Speed (Vc in m/min)

P	M	K	N	S	H
120 160 200	50 80 200	100 140 200	-	-	-

DRW / DRC / DRX

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0,032	0,032	0,032	-	0,032	0,032
4	0,033	0,033	0,033	-	0,033	0,033
5	0,045	0,045	0,045	-	0,045	0,045
6	0,065	0,065	0,065	-	0,065	0,065
8	0,098	0,098	0,098	-	0,098	0,098
10	0,121	0,121	0,121	-	0,121	0,121
12	0,145	0,145	0,145	-	0,145	0,145
14	0,151	0,151	0,151	-	0,151	0,151
16	0,162	0,162	0,162	-	0,162	0,162
18	0,172	0,172	0,172	-	0,172	0,172
20	0,198	0,198	0,198	-	0,198	0,198

Speed (Vc in m/min)

P	M	K	N	S	H
80 120 180	50 70 120	70 100 150	-	50 70 120	40 60 100

2NCD

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0,032	0,032	0,032	-	0,032	0,032
4	0,033	0,033	0,033	-	0,033	0,033
5	0,045	0,045	0,045	-	0,045	0,045
6	0,065	0,065	0,065	-	0,065	0,065
8	0,098	0,098	0,098	-	0,098	0,098
10	0,121	0,121	0,121	-	0,121	0,121
12	0,145	0,145	0,145	-	0,145	0,145
14	0,151	0,151	0,151	-	0,151	0,151
16	0,162	0,162	0,162	-	0,162	0,162
18	0,172	0,172	0,172	-	0,172	0,172
20	0,198	0,198	0,198	-	0,198	0,198

Speed (Vc in m/min)

P	M	K	N	S	H
80 120 180	50 70 120	70 100 150	-	50 70 120	40 60 100

5RME

Application data (fz /mm)

SIZE Ø(mm)	P	M	K	N	S	H
3	0,032	-	0,032	-	-	0,032
4	0,033	-	0,033	-	-	0,033
5	0,045	-	0,045	-	-	0,045
6	0,065	-	0,065	-	-	0,065
8	0,098	-	0,098	-	-	0,098
10	0,121	-	0,121	-	-	0,121
12	0,145	-	0,145	-	-	0,145
14	0,151	-	0,151	-	-	0,151
16	0,162	-	0,162	-	-	0,162
18	0,172	-	0,172	-	-	0,172
20	0,198	-	0,198	-	-	0,198

Speed (Vc in m/min)

P	M	K	N	S	H
80 120 180	-	70 100 150	-	-	40 60 100

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