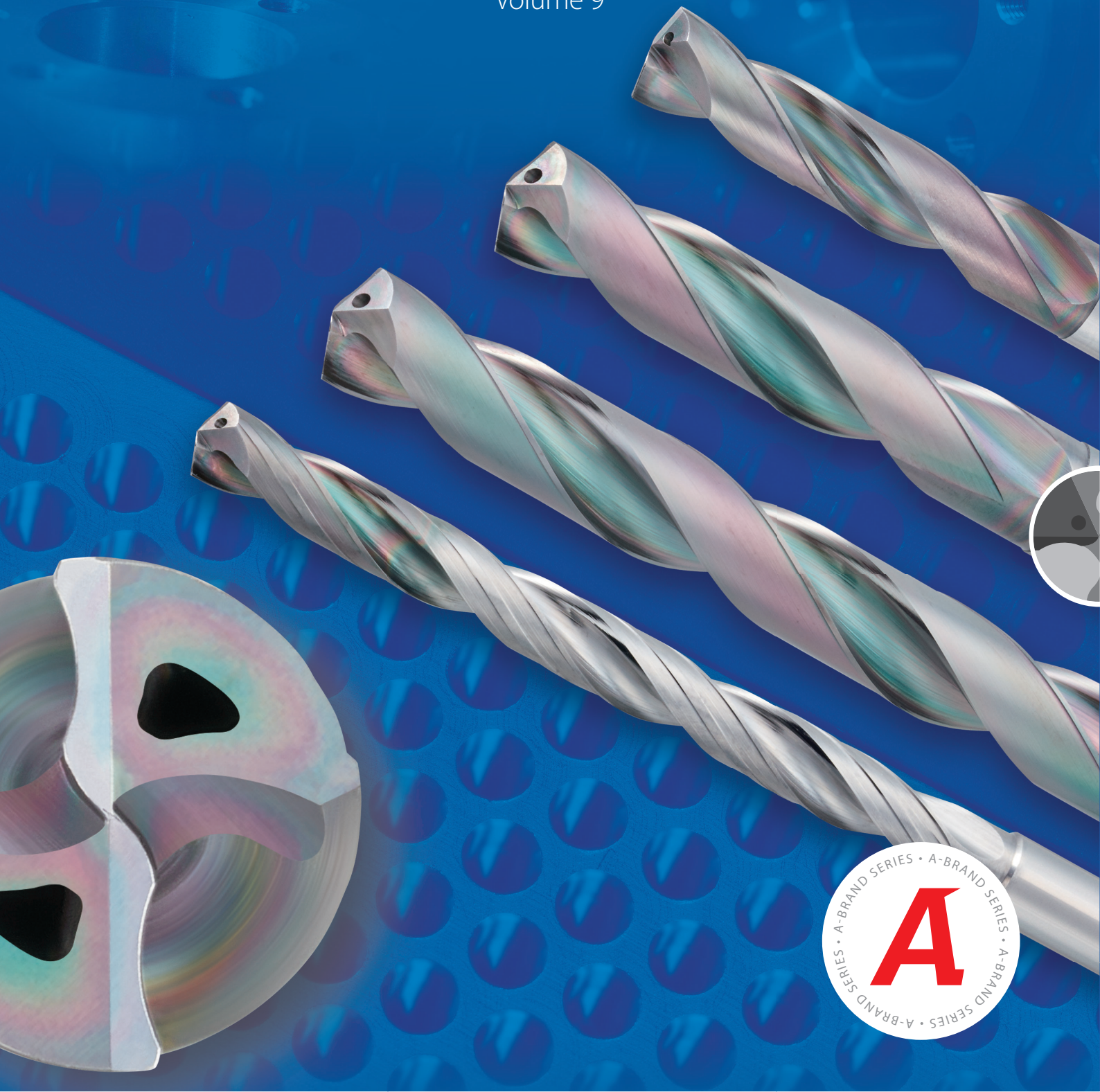
New carbide drill series

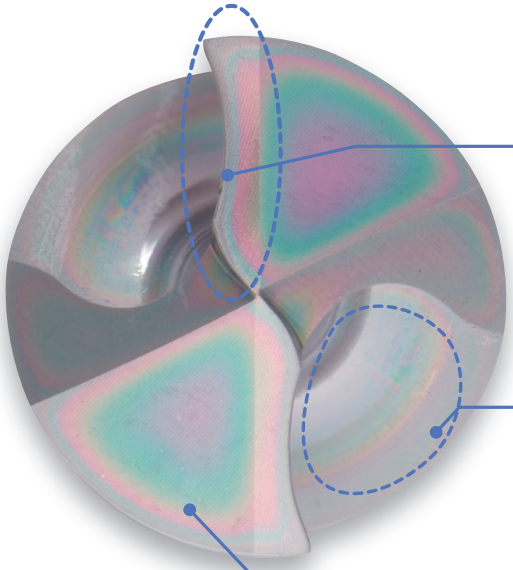
AD & ADO(X) SERIES

Volume 9



INDEX

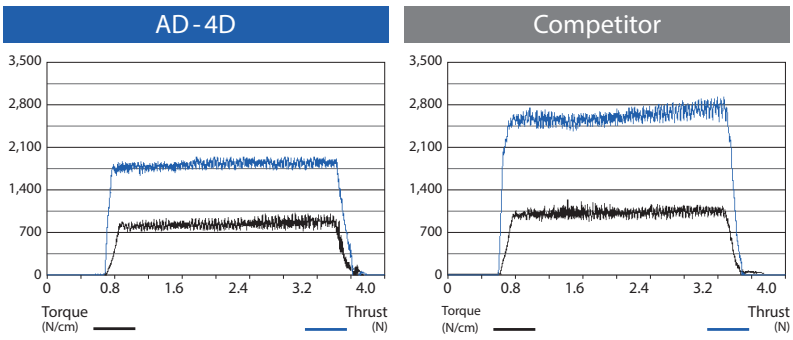
Suitable for a wide variety of work materials



1. Wavy point form breaks chip into small manageable pieces
   Applies only to diameter sizes over 4mm
2. Wide flute room facilitates stable chip evacuation
3. EgiAs coating enables long tool life

Low thrust resistance and stable torque

Low thrust resistance and stable torque are possible by the new wavy point form and low web thickness

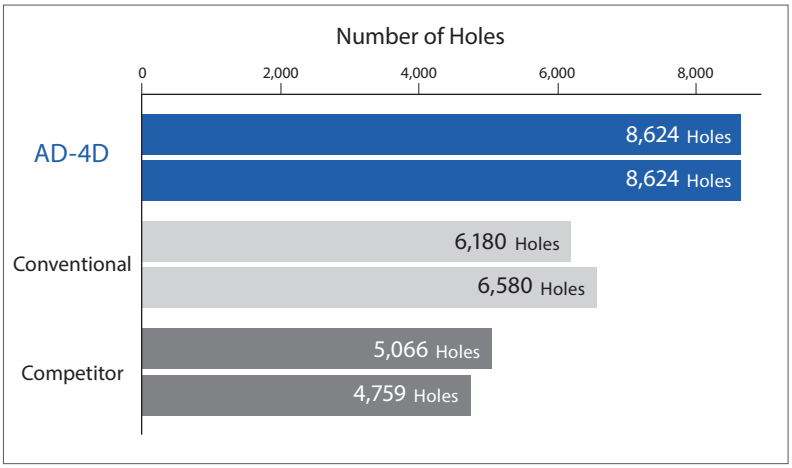


Tool	AD-4D Ø10
Work Material	SCM440
Cutting Speed	70m/min (2.229 min^{-1})
Feed Rate	668 mm/min (0,3 mm/rev)
Depth of Hole	30 mm (Blind)
Coolant	Water Soluble (external)
Machine	Vertical Machining Center

An all-purpose tool upgraded with even greater capabilities

Superior protection against friction with OSG's EgiAs coating

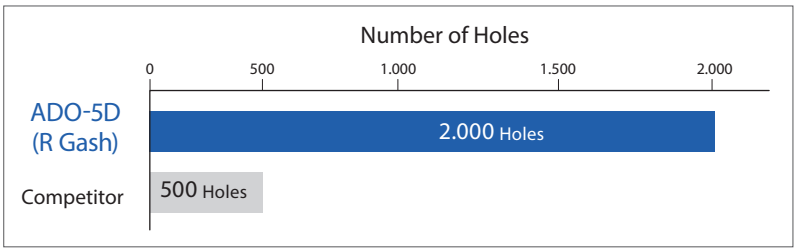
Tool	AD-4D Ø6
Work Material	SCM440 (30HRC)
Cutting Speed	70m/min (3.715 min^{-1})
Feed Rate	668 mm/min (0,18 mm/rev)
Depth of Hole	18 mm (Blind)
Coolant	Water Soluble (external)
Machine	Vertical Machining Center

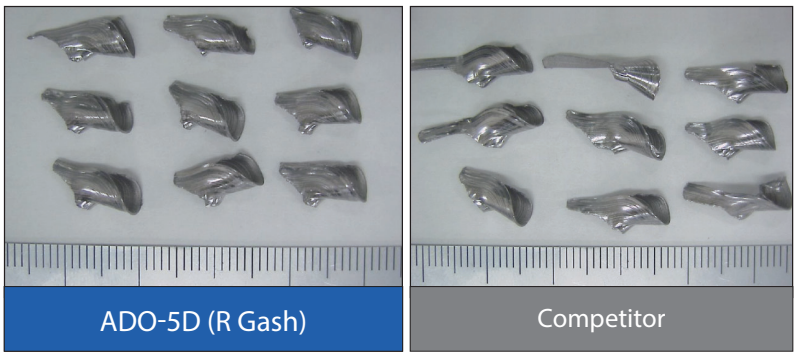


Achieves high efficiency and stable machining even in small machining centers

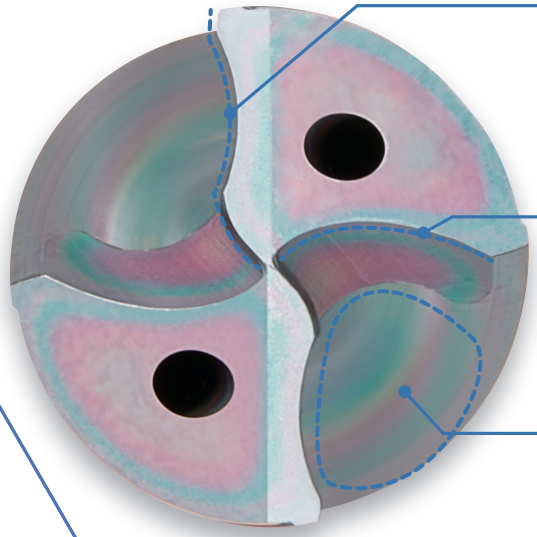
Achieves stable and long tool life by finely dividing cutting chips

Tool	ADO-5D Ø13 (R Gash)	Ø13 Competitor
Work Material	SCM415	
Cutting Speed	60m/min (1.469 min^{-1})	
Feed Rate	485 mm/min (0,33 mm/rev)	367 mm/min (0,25 mm/rev)
Depth of Hole	65 mm (Blind)	
Coolant	Water Soluble (Internal)	
Coolant Pressure	2,2 MPa	
Machine	Vertical Machining Center	





Optimum specifications for every drilling depth



1 Wavy point form
- Long tool life is possible by low thrust resistance and stable torque
- Breaks chips into small manageable pieces

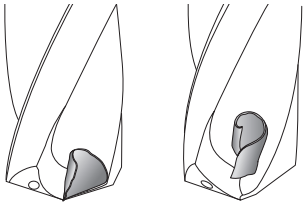
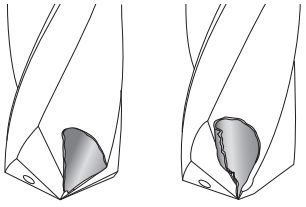
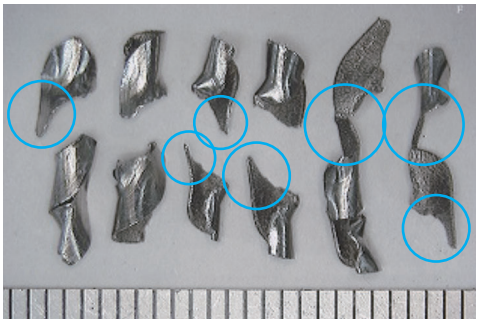
2 R Gash
Unique R Gash geometry enables super low cutting resistance and exceptional chip control

3 Wide flute room facilitates stable chip evacuation

4 EgiAs coating enables long tool life
Double margin from 10xD improves stability

R Gash geometry

Breaks chips into small and manageable pieces with superior chip evacuation capability

ADO-3D/5D/8D/10D/15D/20D/25D/30D (R Gash)	Competitor (Straight Gash)
	
Chips are curled tightly with no elongation	Chips are loosely curled and are prone to elongation
	

Work Material: SUS304

R Gash is a registered trademark of OSG Corporation.

EgiAs coating with high toughness and wear resistance characteristics

Constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life. See figure 1.

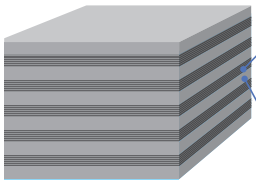


Figure 1. Coating structure

Coating Color	Coating Structure	(Hv) Hardness	(c°) Oxidation Temperature	Heat Resistance	Adhesion Strength	Surface roughness	Wear Resistance	Welding Resistance	Toughness
Interference Color	Nano Periodical Layer	40	1.100	◉	◉	○	◉	◉	◉

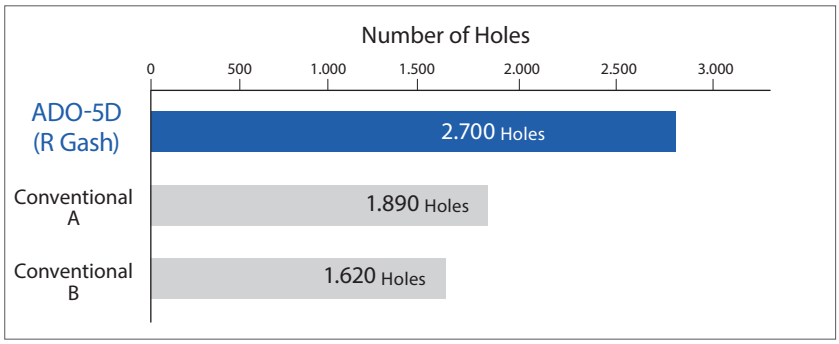
(Fair) ○ ➡ ◉ (Best)

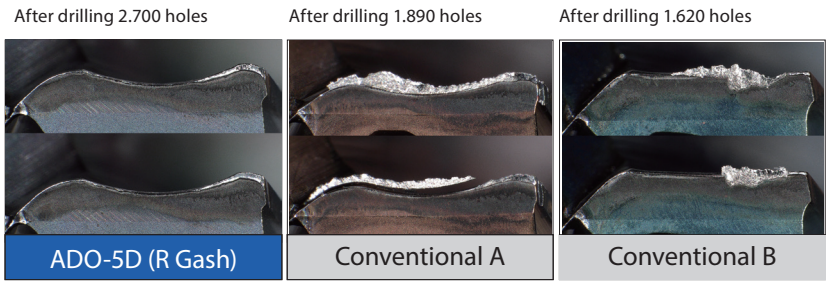
EgiAs is a registered trademark of OSG Corporation.

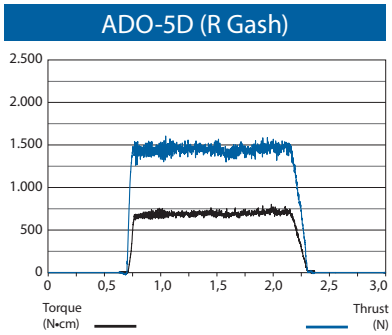
Achieves overwhelmingly low thrust and long tool life with the effect of the R Gash

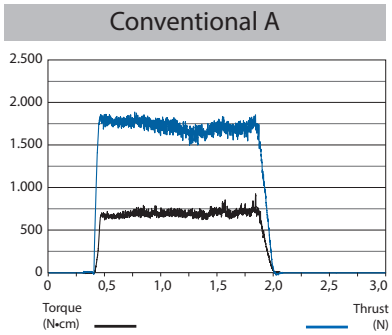
High-efficiency machining with low thrust leads to reduction of power consumption. In addition, extending the life of tools contributes to waste reduction and resource saving.

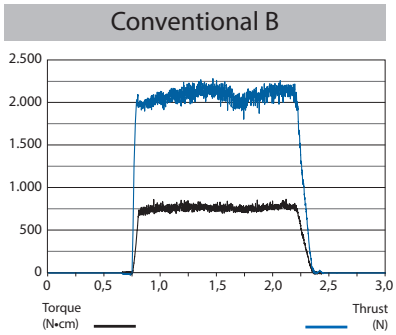
Tool	ADO-5D Ø8 (R Gash)
Work Material	SCM440
Cutting Speed	100m/min (3.979 min^{-1})
Feed Rate	1.591 mm/min (0,4 mm/rev)
Depth of Hole	40 mm (Blind)
Coolant	Water Soluble (Internal)
Coolant Pressure	2 MPa
Machine	Horizontal Machining Center







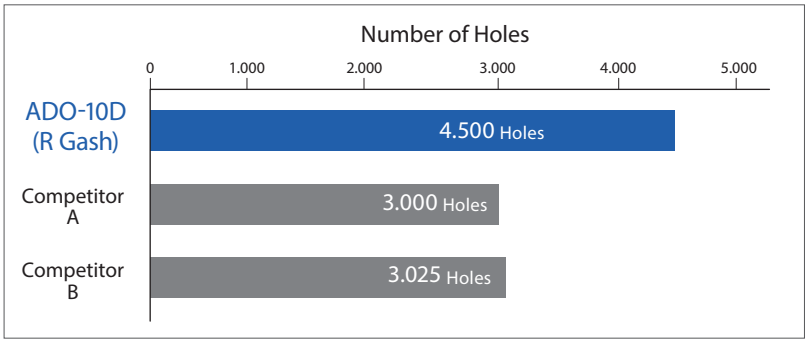


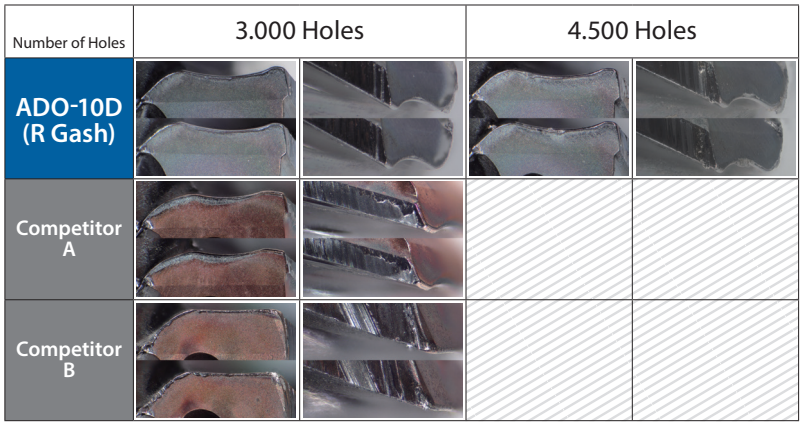


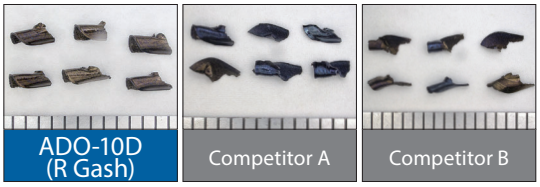
Stable chip shape and long tool life even with MQL

Stable machining is possible even with MQL, which uses a very small amount of oil and does not require disposal. Furthermore, extending the life of tools leads to reduction of waste and contributes to resource saving.

Tool	ADO-10D Ø4 (R Gash)
Work Material	S50C
Cutting Speed	100m/min (7.958 min^{-1})
Feed Rate	1.273 mm/min (0,16 mm/rev)
Depth of Hole	40 mm (Blind)
Coolant	MQL (internal)
Coolant Pressure	0,45 MPa
Machine	Horizontal Machining Center







Long tool life even in ultra-deep-hole drilling applications

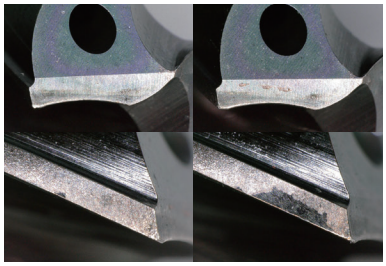
Size	ADO-50D Ø8 (R Gash)
Work Material	SCM440
Depth of Cut	391mm
Coolant	Water Soluble
Machine	Horizontal Machining Center

Tool	Second Step		
	①	②	③
	ADO-50D	Competitor (50D)	Gun Drill
Cutting Speed	62,8m/min (2.500 min^{-1})	70m/min (2.787 min^{-1})	60m/min (2.389 min^{-1})
Feed	750 mm/min (0,3 mm/rev)	418 mm/min (0,15 mm/rev)	143 mm/min (0,06 mm/rev)

First Step: pilot hole at depth of 40mm

		Number of Holes (100 – 200)	Cutting Time
①	**ADO-50D**	256 Holes Still Running	1'4''
②	**Competitor**	60 Holes Breakage	1'29''
③	**Gun Drill**	65 Holes Wear and replacement	3'17''

ADO-50D
After drilling 256 holes

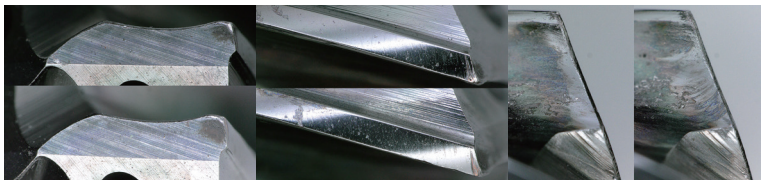


Effectively breaks chips into small and manageable pieces even in sticky work material

Tool	ADO-50D (R Gash)	Competitor
Size	Ø5	
Work Material	SCM420H	
Cutting Speed	60m/min (3.822 min^{-1})	50m/min (3.185 min^{-1})
Feed Rate	955 mm/min (0,25 mm/rev)	636 mm/min (0,2 mm/rev)
Depth of Hole	250 mm (Blind)	
Coolant	Water Soluble	
Machine	Multifunction Lathe	

ADO-50D	Competitor
	

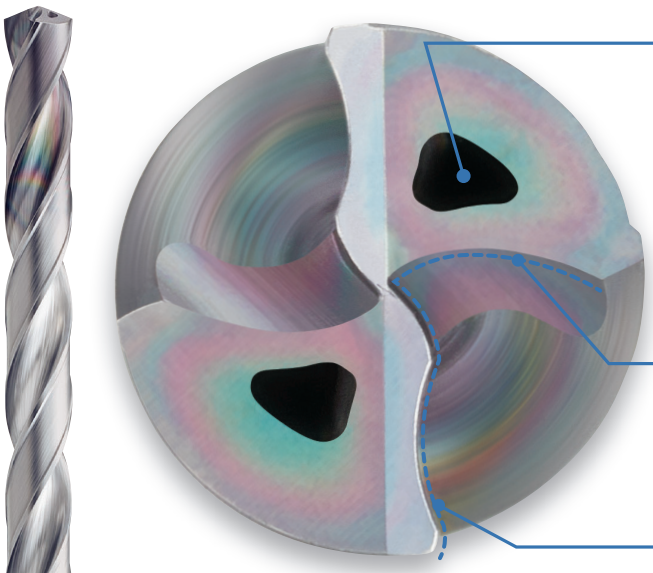
ADO-50D
After drilling 572 holes



	Number of Holes (100 – 200 – 300 – 400 – 500 – 600)
ADO-50D	572 Holes Wear and replacement
Competitor	360 Holes Breakage

ADOX HIGH-PERFORMANCE COOLANT-THROUGH CARBIDE DRILL

Stable machining across a wide range of materials with long tool life!



1 Innovative coolant hole geometry: "MEGA COOLER"

- Coolant hole design optimized to enhance R Gash performance
- Maximizes coolant flow

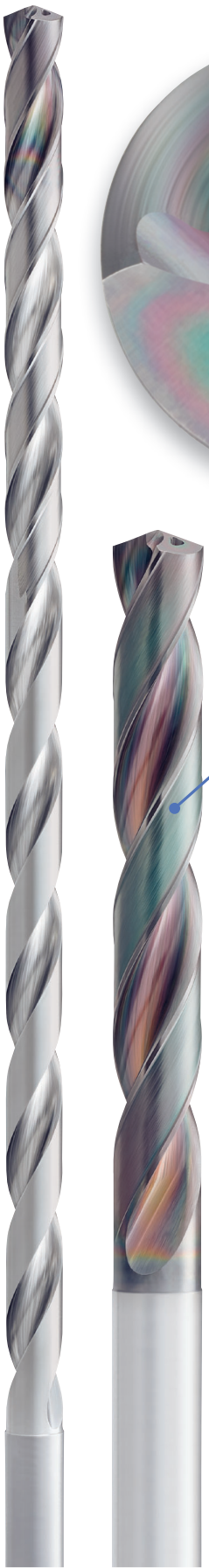
MEGA COOLER is a registered trademark of OSG Corporation.

2 R Gash

Unique R Gash geometry enables super low cutting resistance and exceptional chip control

3 Wavy Point Form

- Long tool life is possible by low thrust resistance and stable torque
- Breaks chips into small manageable pieces
- Double margin from 8xD improves stability

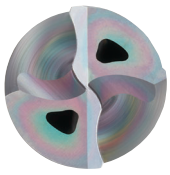
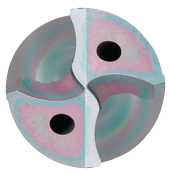


4 EgiAs coating enables long tool life

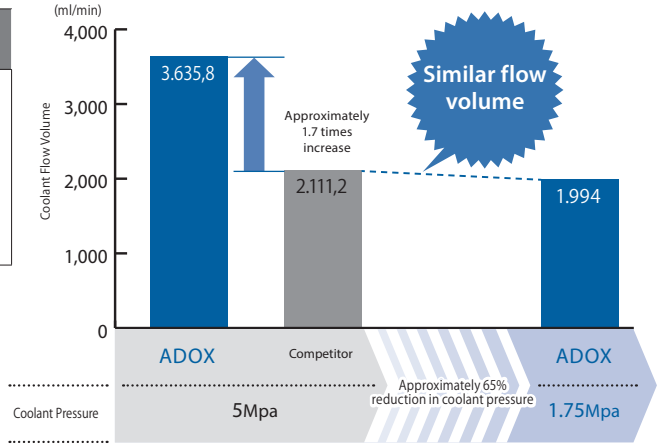
Constructed with extreme toughness, high wear and heat resistance characteristics to ensure stable and consistent tool life

Maximizes coolant flow

- Increased coolant flow even at low pressure
- Enables high-efficiency, long tool life machining even with high-viscosity oil-based cutting fluids

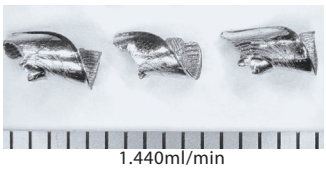
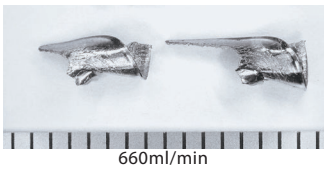
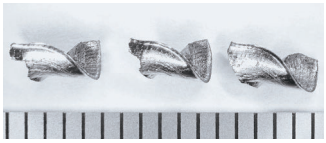
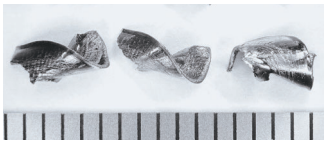
ADOX Ø5,1	Conventional Ø5,1
	

- Approximately 1.7 times flow volume at the same coolant pressure
- Approximately 65% reduction in coolant pressure at the same flow rate



High Efficiency
Unparalleled chip stability and machining efficiency

- Chip shape that contributes to stable machining
  The combined effect of the R Gash and enhanced coolant flow ensures excellent chip evacuation and optimal chip shape, even under low coolant pressure.

Coolant Pressure	ADOX-30D Ø6	Conventional Ø6
1Mpa	 1.440ml/min Coolant Flow Volume	 660ml/min Coolant Flow Volume
4Mpa	 2.460ml/min Coolant Flow Volume	 1.080ml/min Coolant Flow Volume

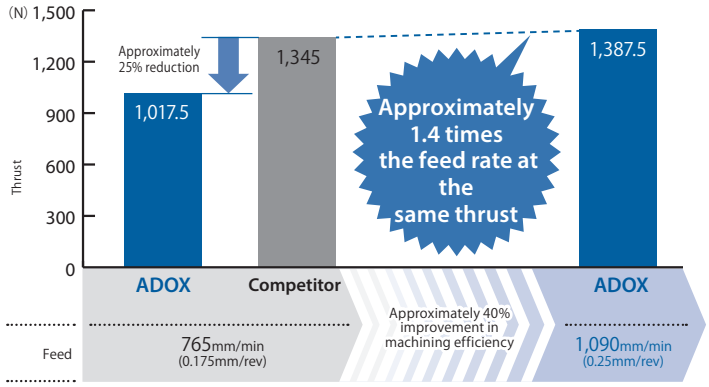
Work Material	S50C
Cutting Speed	90m/min
Feed Rate	0,18mm/rev

R Gash is a registered trademark of OSG Corporation.

Low thrust contributes to improved machining efficiency

- Reduced thrust lowers load on spindle and workpiece, enabling high-efficiency machining

Tool	ADOX-3D
Size	Ø5,1
Work Material	SUS304
Cutting Speed	70m/min (4.370 min^{-1})
Coolant	Water Soluble (5%-Internal)
Coolant Pressure	5MPa



- Approximately 25% reduction in thrust at the same feed rate
- Approximately 40% improvement in machining efficiency at the same thrust

Compatibility
Supports tool consolidation with broad material compatibility

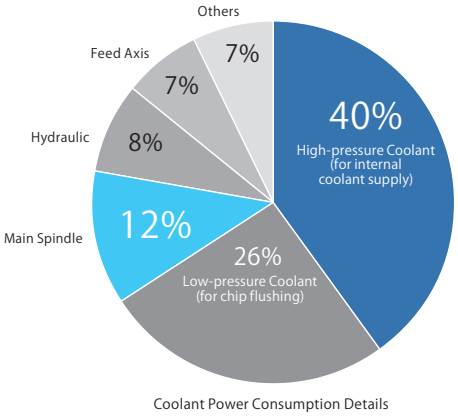
- Compatible with a wide range of work materials, including carbon steel, alloy steel, stainless steel, and more.
- Eliminates the need for separate tools per material.

Reduced coolant pump pressure leads to lower power consumption

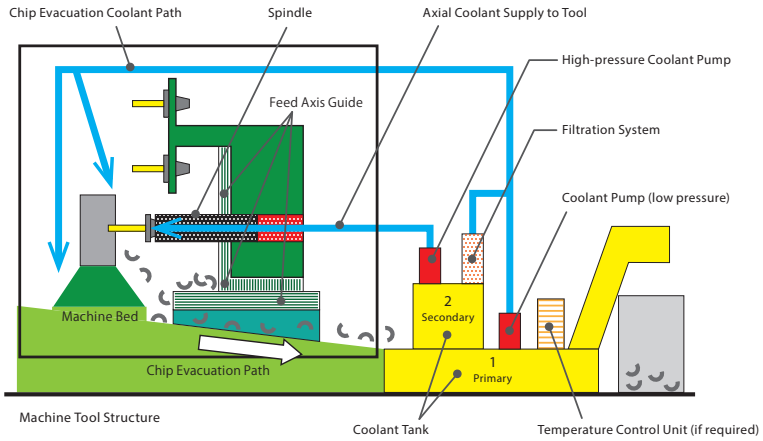
- ADOX's innovative "MEGA COOLER" coolant hole geometry delivers high coolant output even at low pressure.

Example of power consumption breakdown in cutting operations and coolant system impact

High-pressure coolant pumps consume more energy than the spindle motors used in cutting operations. Therefore, reducing the energy consumption of high-pressure coolant pumps is essential for lowering overall power usage.



Coolant Power Consumption Details



Machine Tool Structure

Work Material : Aluminum Alloy
Speed : 12.000min^{-1}

Machine : Horizontal Machining Center
High-pressure Coolant Pressure (for internal coolant supply) : 2Mpa

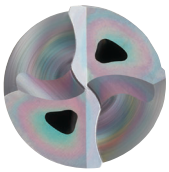
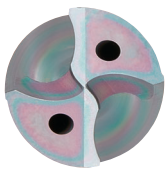
Main Spindle : BT40
Low-pressure Coolant Pressure (for chip flushing) : 0,3Mpa

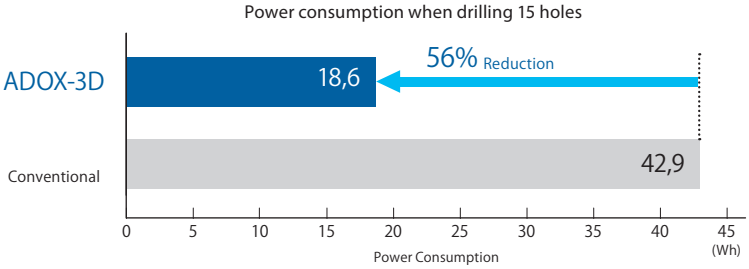
Source: Adapted from Juntsu Net 21, "Measures for Reducing Waste Oil and Liquid in MQL and Semi-Dry Machining,"

ADOX
ADOX reduces power consumption of high-pressure coolant pumps.

Delivers same coolant output as conventional products, even at low coolant pressure

Comparison of power consumption of high-pressure coolant pumps at different coolant pressures

	ADOX Ø5,1	Conventional Ø5,1
Tool		
Coolant Pressure	1,75 Mpa	5MPa
Coolant Flow Volume	1.994 ml/min	2.111,2 ml/min



Work Material : SUS304
Depth of hole: 15mm Blind

Cutting Speed : 70m/min (4.370 min^{-1})
Coolant : Water-soluble(5%-Internal)

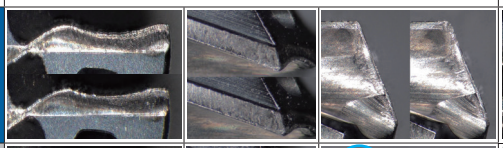
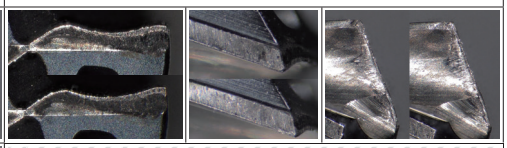
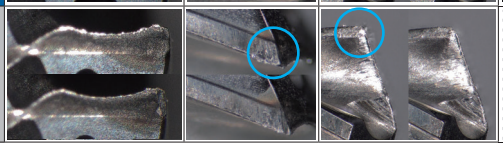
Feed: 765mm/min (0,175mm/rev)
Machine : Horizontal Machining Center

The above is an example; result may vary depending on tool size and actual machining environment.

Long tool life achieved through sufficient coolant output at low pressure

Tool	ADOX-5D Ø2,7
Work Material	SUS304
Cutting Speed	80m/min (9.435 min^{-1})
Feed	755mm/min (0,08mm/rev)
Depth of Hole	13,5mm (Blind)
Coolant	Water Soluble (5%-Internal)
Machine	Horizontal Machining Center

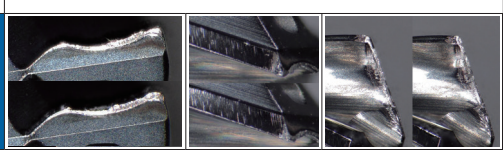
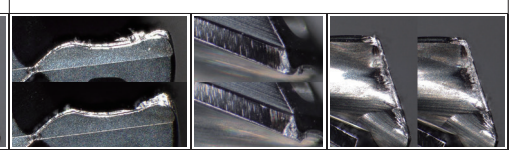
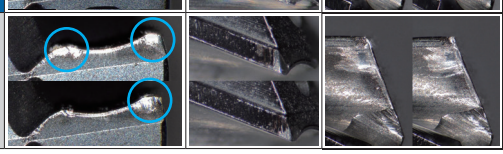
	(MPa) Coolant Pressure	(l/min) Coolant Flow Volume	Number of Holes 2.000 4.000 6.000 8.000 10.000
ADOX-5D	1,5	0,4	10.000 Holes Still Running
Conventional	1,5	0,13	3.500 Holes Chipping

Number of Holes	3.500 Holes	10.000 Holes
ADOX-5D		
Conventional		

Increased coolant output contributes to extended tool life

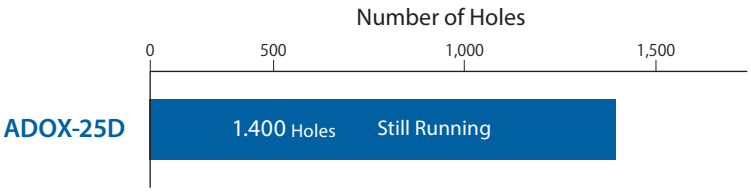
Tool	ADOX-5D Ø2,7
Work Material	SCM440 (82~90HRB)
Cutting Speed	80m/min (9.435 min^{-1})
Feed	755mm/min (0,08mm/rev)
Depth of Hole	13,5mm (Blind)
Coolant	Water Soluble (5%-Internal)
Machine	Horizontal Machining Center

	(MPa) Coolant Pressure	(l/min) Coolant Flow Volume	Number of Holes 1.000 2.000 3.000 4.000
ADOX-5D	4	0,7	4.000 Holes Chipping
Conventional	4	0,23	2.000 Holes Chipping

Number of Holes	2.000 Holes	4.000 Holes
ADOX-5D		
従来品 Conventional		

tool life in manganese-chromium steel machining (800-1.200 N/mm²)

Tool	ADOX-25D Ø4,9	Competitor
Work Material	SMnC Equivalent Material (800~1.200N/mm²)	
Cutting Speed	93m/min (6.000 min⁻¹)	
Feed	1.250mm/min (0,21mm/rev)	
Depth of Hole	90mm (Through)	
Coolant Pressure	6MPa	
Coolant	Water Soluble (Internal)	
Machine	Horizontal Machining Center	

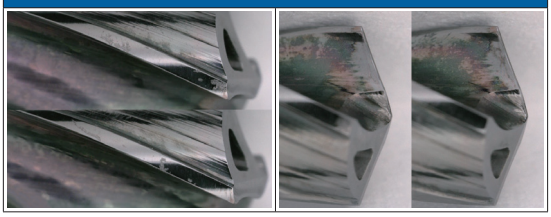


Competitor tool: 700-1,330 holes

ADOX achieves stable, long tool life with high feed rates

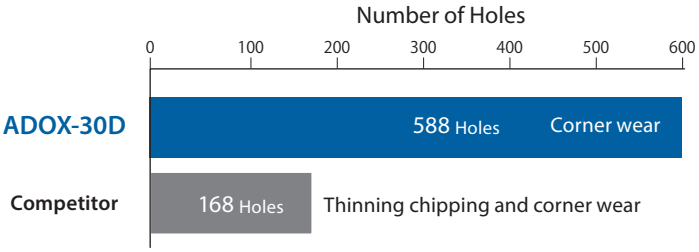
After drilling 1,400 holes

ADOX-25D



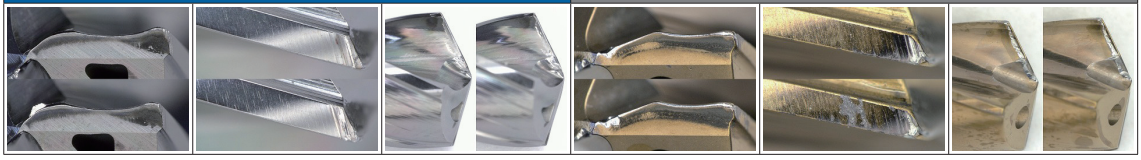
High efficiency and long tool life in 30D deep hole drilling

Tool	ADOX-30D Ø5	Competitor
Work Material	S50C	
Cutting Speed	90m/min (5.730 min⁻¹)	
Feed	1.146mm/min (0,2mm/rev)	573mm/min (0,1mm/rev)
Depth of Hole	150mm (Blind)	
Coolant Pressure	5MPa	
Coolant	Water Soluble (5%-Internal)	
Machine	Horizontal Machining Center	



ADOX-30D
After drilling 588 holes

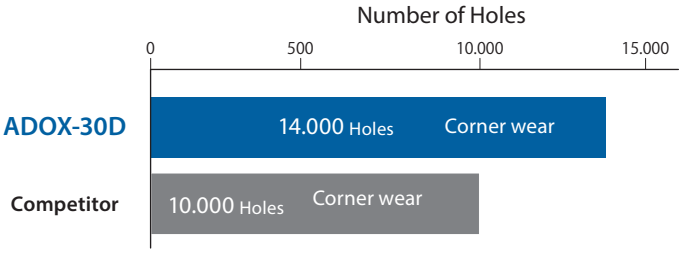
Competitor
After drilling 168 holes



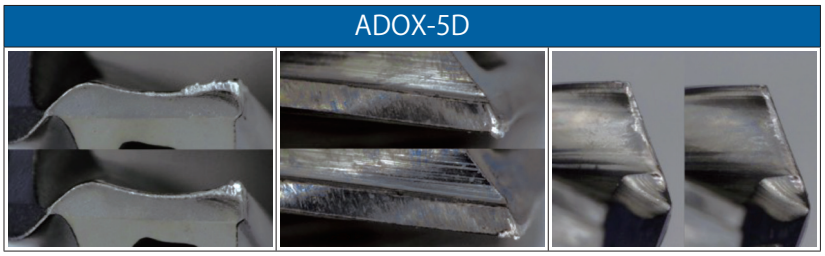
High-efficiency and long tool life with high-viscosity oil-based cutting fluid

Machining electromagnetic stainless steel

Tool	ADOX-5D Ø3,3	Competitor
Work Material	Electromagnetic Stainless Steel	
Cutting Speed	51,8m/min (5.000 min^{-1})	
Feed	330mm/min (0,066mm/rev)	250mm/min (0,05mm/rev)
Depth of Hole	10,5mm (Blind)	
Coolant	Oil-based Coolant (Internal)	
Machine	CNC Sliding Head Lathe	

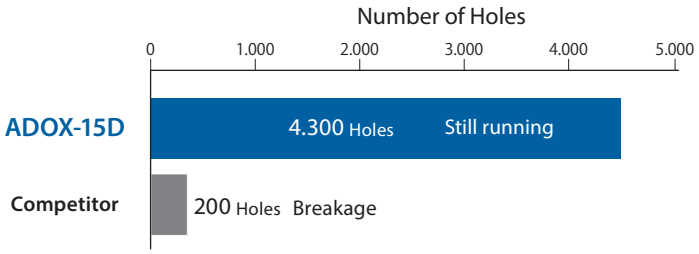


After drilling 14.000 holes

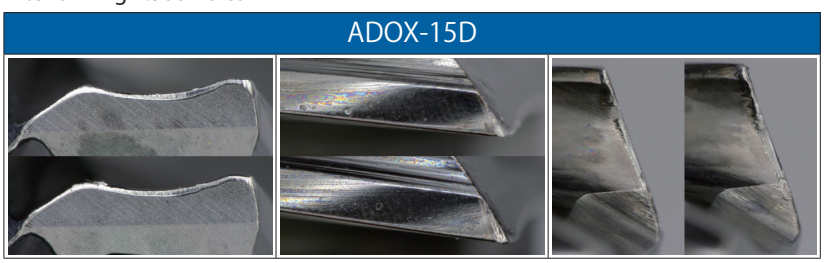


Machining high-carbon chromium bearing steel

Tool	ADOX-15D Ø3
Work Material	SUJ2
Cutting Speed	18,8m/min (2.000 min^{-1})
Feed	100mm/min (0,05mm/rev)
Depth of Hole	42,2mm (Through)
Coolant	Non-water-soluble (Internal)
Machine	8-axis Automatic Lathe

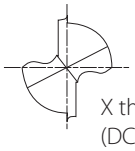


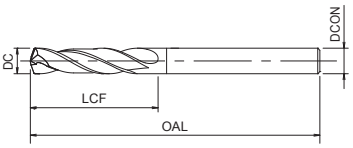
After drilling 4.300 holes

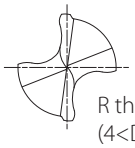


AD-2D

Drilling | Solid carbide | 2xD







- First choice in quality and performance
- Carbide drill with EgiAs coating
- Up to 2xD
- For general purpose steels and cast iron
- 160 sizes

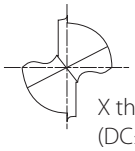
page 44

EDP	DC	LCF	OAL	DCON
8670200	2	14	62	4
8670210	2,1	14	62	4
8670220	2,2	14	62	4
8670230	2,3	14	62	4
8670240	2,4	14	62	4
8670250	2,5	14	62	4
8670260	2,6	14	62	4
8670270	2,7	14	62	4
8670276	2,76	14	62	4
8670278	2,78	14	62	4
8670280	2,8	14	62	4
8670290	2,9	14	62	4
8670300	3	20	66	4
8670310	3,1	20	66	4
8670320	3,2	20	66	4
8670330	3,3	20	66	4
8670340	3,4	20	66	4
8670350	3,5	20	66	4
8670360	3,6	20	66	4
8670366	3,66	20	66	4
8670368	3,68	20	66	4
8670370	3,7	20	66	4
8670380	3,8	24	66	4
8670390	3,9	24	66	4
8670400	4	24	66	4
8670410	4,1	24	66	6
8670420	4,2	24	66	6
8670430	4,3	24	66	6
8670440	4,4	24	66	6
8670450	4,5	24	66	6
8670460	4,6	24	66	6
8670462	4,62	24	66	6
8670464	4,64	24	66	6
8670470	4,7	24	66	6
8670480	4,8	28	66	6
8670490	4,9	28	66	6
8670500	5	28	66	6
8670510	5,1	28	66	6
8670520	5,2	28	66	6
8670530	5,3	28	66	6
8670540	5,4	28	66	6
8670550	5,5	28	66	6
8670552	5,52	28	66	6
8670554	5,54	28	66	6
8670560	5,6	28	66	6
8670570	5,7	28	66	6

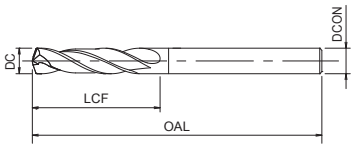
EDP	DC	LCF	OAL	DCON
8670580	5,8	28	66	6
8670590	5,9	28	66	6
8670600	6	28	66	6
8670610	6,1	34	79	8
8670620	6,2	34	79	8
8670630	6,3	34	79	8
8670640	6,4	34	79	8
8670650	6,5	34	79	8
8670660	6,6	34	79	8
8670670	6,7	34	79	8
8670680	6,8	34	79	8
8670690	6,9	34	79	8
8670700	7	34	79	8
8670710	7,1	41	79	8
8670720	7,2	41	79	8
8670730	7,3	41	79	8
8670736	7,36	41	79	8
8670738	7,38	41	79	8
8670740	7,4	41	79	8
8670750	7,5	41	79	8
8670754	7,54	41	79	8
8670760	7,6	41	79	8
8670770	7,7	41	79	8
8670780	7,8	41	79	8
8670790	7,9	41	79	8
8670800	8	41	79	8
8670810	8,1	47	89	10
8670820	8,2	47	89	10
8670830	8,3	47	89	10
8670840	8,4	47	89	10
8670850	8,5	47	89	10
8670860	8,6	47	89	10
8670870	8,7	47	89	10
8670880	8,8	47	89	10
8670890	8,9	47	89	10
8670900	9	47	89	10
8670910	9,1	47	89	10
8670920	9,2	47	89	10
8670930	9,3	47	89	10
8670940	9,4	47	89	10
8670950	9,5	47	89	10
8670960	9,6	47	89	10
8670970	9,7	47	89	10
8670980	9,8	47	89	10
8670990	9,9	47	89	10
8671000	10	47	89	10

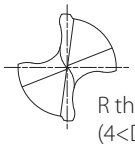
AD-2D

Drilling | Solid carbide | 2xD



X thinning
(DC≤4)





R thinning
(4<DC)

- First choice in quality and performance
- Carbide drill with EgiAs coating
- Up to 2xD
- For general purpose steels and cast iron
- 160 sizes

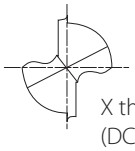
page 44

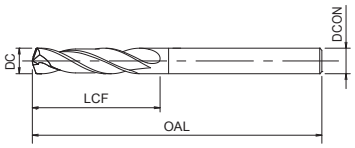
EDP	DC	LCF	OAL	DCON
8671010	10,1	55	102	12
8671020	10,2	55	102	12
8671030	10,3	55	102	12
8671040	10,4	55	102	12
8671050	10,5	55	102	12
8671060	10,6	55	102	12
8671070	10,7	55	102	12
8671080	10,8	55	102	12
8671090	10,9	55	102	12
8671100	11	55	102	12
8671110	11,1	55	102	12
8671120	11,2	55	102	12
8671130	11,3	55	102	12
8671140	11,4	55	102	12
8671150	11,5	55	102	12
8671160	11,6	55	102	12
8671170	11,7	55	102	12
8671180	11,8	55	102	12
8671190	11,9	55	102	12
8671200	12	55	102	12
8671210	12,1	60	107	14
8671220	12,2	60	107	14
8671230	12,3	60	107	14
8671240	12,4	60	107	14
8671250	12,5	60	107	14
8671260	12,6	60	107	14
8671270	12,7	60	107	14
8671280	12,8	60	107	14
8671290	12,9	60	107	14
8671300	13	60	107	14
8671310	13,1	60	107	14
8671320	13,2	60	107	14
8671330	13,3	60	107	14
8671340	13,4	60	107	14
8671350	13,5	60	107	14
8671360	13,6	60	107	14
8671370	13,7	60	107	14
8671380	13,8	60	107	14
8671390	13,9	60	107	14
8671400	14	60	107	14
8671410	14,1	65	115	16
8671420	14,2	65	115	16
8671430	14,3	65	115	16
8671440	14,4	65	115	16
8671450	14,5	65	115	16
8671460	14,6	65	115	16

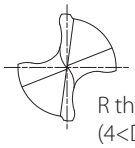
EDP	DC	LCF	OAL	DCON
8671470	14,7	65	115	16
8671480	14,8	65	115	16
8671490	14,9	65	115	16
8671500	15	65	115	16
8671510	15,1	65	115	16
8671520	15,2	65	115	16
8671530	15,3	65	115	16
8671540	15,4	65	115	16
8671550	15,5	65	115	16
8671560	15,6	65	115	16
8671570	15,7	65	115	16
8671580	15,8	65	115	16
8671590	15,9	65	115	16
8671600	16	65	115	16
8671650	16,5	73	123	18
8671700	17	73	123	18
8671750	17,5	73	123	18
8671800	18	73	123	18
8671850	18,5	79	131	20
8671900	19	79	131	20
8671950	19,5	79	131	20
8672000	20	79	131	20

AD-4D

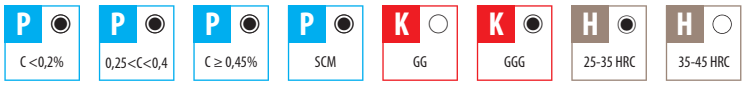
Drilling | Solid carbide | 4xD







- First choice in quality and performance
- Carbide drill with EgiAs coating
- Up to 4xD
- For general purpose steels and cast iron
- 149 sizes



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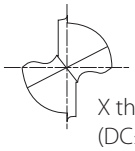
EDP	DC	LCF	OAL	DCON
8672200	2	20	66	4
8672210	2,1	20	66	4
8672220	2,2	20	66	4
8672230	2,3	20	66	4
8672240	2,4	20	66	4
8672250	2,5	20	66	4
8672260	2,6	20	66	4
8672270	2,7	20	66	4
8672280	2,8	20	66	4
8672290	2,9	20	66	4
8672300	3	28	74	4
8672310	3,1	28	74	4
8672320	3,2	28	74	4
8672330	3,3	28	74	4
8672340	3,4	28	74	4
8672350	3,5	28	74	4
8672360	3,6	28	74	4
8672370	3,7	28	74	4
8672380	3,8	36	74	4
8672390	3,9	36	74	4
8672400	4	36	74	4
8672410	4,1	36	74	6
8672420	4,2	36	74	6
8672430	4,3	36	74	6
8672440	4,4	36	74	6
8672450	4,5	36	74	6
8672460	4,6	36	74	6
8672470	4,7	36	74	6
8672480	4,8	44	82	6
8672490	4,9	44	82	6
8672500	5	44	82	6
8672510	5,1	44	82	6
8672520	5,2	44	82	6
8672530	5,3	44	82	6
8672540	5,4	44	82	6
8672550	5,5	44	82	6
8672560	5,6	44	82	6
8672570	5,7	44	82	6
8672580	5,8	44	82	6
8672590	5,9	44	82	6
8672600	6	44	82	6
8672610	6,1	53	91	8
8672620	6,2	53	91	8
8672630	6,3	53	91	8
8672640	6,4	53	91	8
8672650	6,5	53	91	8

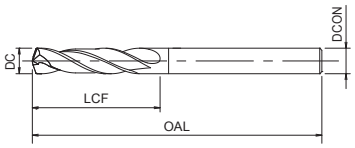
EDP	DC	LCF	OAL	DCON
8672660	6,6	53	91	8
8672670	6,7	53	91	8
8672680	6,8	53	91	8
8672690	6,9	53	91	8
8672700	7	53	91	8
8672710	7,1	53	91	8
8672720	7,2	53	91	8
8672730	7,3	53	91	8
8672740	7,4	53	91	8
8672750	7,5	53	91	8
8672760	7,6	53	91	8
8672770	7,7	53	91	8
8672780	7,8	53	91	8
8672790	7,9	53	91	8
8672800	8	53	91	8
8672810	8,1	61	103	10
8672820	8,2	61	103	10
8672830	8,3	61	103	10
8672840	8,4	61	103	10
8672850	8,5	61	103	10
8672860	8,6	61	103	10
8672870	8,7	61	103	10
8672880	8,8	61	103	10
8672890	8,9	61	103	10
8672900	9	61	103	10
8672910	9,1	61	103	10
8672920	9,2	61	103	10
8672930	9,3	61	103	10
8672940	9,4	61	103	10
8672950	9,5	61	103	10
8672960	9,6	61	103	10
8672970	9,7	61	103	10
8672980	9,8	61	103	10
8672990	9,9	61	103	10
8673000	10	61	103	10
8673010	10,1	71	118	12
8673020	10,2	71	118	12
8673030	10,3	71	118	12
8673040	10,4	71	118	12
8673050	10,5	71	118	12
8673060	10,6	71	118	12
8673070	10,7	71	118	12
8673080	10,8	71	118	12
8673090	10,9	71	118	12
8673100	11	71	118	12
8673110	11,1	71	118	12

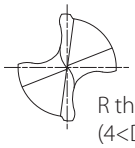
AD-4D

Drilling | Solid carbide | 4xD



X thinning
(DC≤4)





R thinning
(4<DC)

- First choice in quality and performance
- Carbide drill with EgiAs coating
- Up to 4xD
- For general purpose steels and cast iron
- 149 sizes

P C <0,2% | P 0,25<C<0,4 | P C ≥ 0,45% | P SCM | K GG | K GGG | H 25-35 HRC | H 35-45 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | h8

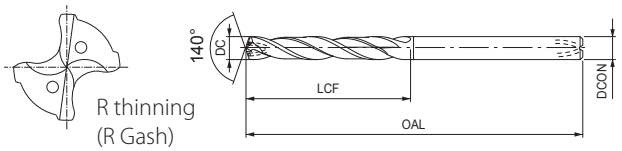
page 44

EDP	DC	LCF	OAL	DCON
8673120	11,2	71	118	12
8673130	11,3	71	118	12
8673140	11,4	71	118	12
8673150	11,5	71	118	12
8673160	11,6	71	118	12
8673170	11,7	71	118	12
8673180	11,8	71	118	12
8673190	11,9	71	118	12
8673200	12	71	118	12
8673210	12,1	77	124	14
8673220	12,2	77	124	14
8673230	12,3	77	124	14
8673240	12,4	77	124	14
8673250	12,5	77	124	14
8673260	12,6	77	124	14
8673270	12,7	77	124	14
8673280	12,8	77	124	14
8673290	12,9	77	124	14
8673300	13	77	124	14
8673310	13,1	77	124	14
8673320	13,2	77	124	14
8673330	13,3	77	124	14
8673340	13,4	77	124	14
8673350	13,5	77	124	14
8673360	13,6	77	124	14
8673370	13,7	77	124	14
8673380	13,8	77	124	14
8673390	13,9	77	124	14
8673400	14	77	124	14
8673410	14,1	83	133	16
8673420	14,2	83	133	16
8673430	14,3	83	133	16
8673440	14,4	83	133	16
8673450	14,5	83	133	16
8673460	14,6	83	133	16
8673470	14,7	83	133	16
8673480	14,8	83	133	16
8673490	14,9	83	133	16
8673500	15	83	133	16
8673510	15,1	83	133	16
8673520	15,2	83	133	16
8673530	15,3	83	133	16
8673540	15,4	83	133	16
8673550	15,5	83	133	16
8673560	15,6	83	133	16
8673570	15,7	83	133	16

EDP	DC	LCF	OAL	DCON
8673580	15,8	83	133	16
8673590	15,9	83	133	16
8673600	16	83	133	16
8673650	16,5	93	143	18
8673700	17	93	143	18
8673750	17,5	93	143	18
8673800	18	93	143	18
8673850	18,5	101	153	20
8673900	19	101	153	20
8673950	19,5	101	153	20
8674000	20	101	153	20

ADO-3D

Drilling | Solid carbide | 3xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Up to 3xD
- For general purpose steels and cast iron
- 167 sizes

P ◉ C <0,2% | P ◉ 0,25<C<0,4 | P ◉ C ≥ 0,45% | P ◉ SCM | M ○ INOX | K ◉ GG | K ◉ GGG | N ○ AC, ADC | S ○ Ti | H ◉ 25-35 HRC | H ○ 35-45 HRC | H ○ 45-52 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | h8

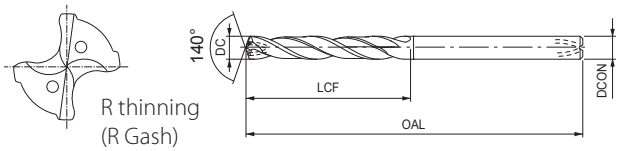
page 44

EDP	DC	LCF	OAL	DCON
8690200	2	12	66	3
8690210	2,1	13	66	3
8690220	2,2	14	66	3
8690230	2,3	14	66	3
8690240	2,4	15	66	3
8690250	2,5	15	66	3
8690260	2,6	16	66	3
8690265	2,65	16	66	3
8690270	2,7	17	66	3
8690280	2,8	17	66	3
8690290	2,9	18	66	3
8690300	3	18	66	3
8690310	3,1	19	74	4
8690315	3,15	19	74	4
8690320	3,2	20	74	4
8690330	3,3	20	74	4
8690340	3,4	21	74	4
8690350	3,5	21	74	4
8690360	3,6	22	74	4
8690370	3,7	23	74	4
8690375	3,75	23	74	4
8690380	3,8	23	74	4
8690390	3,9	24	74	4
8690400	4	24	74	4
8690410	4,1	25	80	5
8700410	4,1	25	80	6
8690420	4,2	26	80	5
8700420	4,2	26	80	6
8690430	4,3	26	80	5
8700430	4,3	26	80	6
8690440	4,4	27	80	5
8700440	4,4	27	80	6
8690450	4,5	27	80	5
8700450	4,5	27	80	6
8690460	4,6	28	80	5
8700460	4,6	28	80	6
8690470	4,7	29	80	5
8700470	4,7	29	80	6
8690480	4,8	29	80	5
8700480	4,8	29	80	6
8690490	4,9	30	80	5
8700490	4,9	30	80	6
8690500	5	25	80	5
8700500	5	25	80	6
8690510	5,1	26	82	6
8690520	5,2	26	82	6

EDP	DC	LCF	OAL	DCON
8690525	5,25	27	82	6
8690530	5,3	27	82	6
8690540	5,4	27	82	6
8690550	5,5	28	82	6
8690560	5,6	28	82	6
8690570	5,7	29	82	6
8690580	5,8	29	82	6
8690590	5,9	30	82	6
8690600	6	30	82	6
8700610	6,1	31	88	8
8700620	6,2	31	88	8
8700630	6,3	32	88	8
8700640	6,4	32	88	8
8700650	6,5	33	88	8
8700660	6,6	33	88	8
8700670	6,7	34	88	8
8700680	6,8	34	88	8
8700690	6,9	35	88	8
8700700	7	35	88	8
8690710	7,1	36	94	8
8690720	7,2	36	94	8
8690725	7,25	37	94	8
8690730	7,3	37	94	8
8690740	7,4	37	94	8
8690750	7,5	38	94	8
8690760	7,6	38	94	8
8690770	7,7	39	94	8
8690775	7,75	39	94	8
8690780	7,8	39	94	8
8690790	7,9	40	94	8
8690800	8	40	94	8
8700810	8,1	41	101	10
8700820	8,2	41	101	10
8700830	8,3	42	101	10
8700840	8,4	42	101	10
8700850	8,5	43	101	10
8700860	8,6	43	101	10
8700870	8,7	43	101	10
8700880	8,8	44	101	10
8700890	8,9	45	101	10
8700900	9	45	101	10
8690910	9,1	46	106	10
8690920	9,2	46	106	10
8690925	9,25	47	106	10
8690930	9,3	47	106	10
8690940	9,4	47	106	10

ADO-3D

Drilling | Solid carbide | 3xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Up to 3xD
- For general purpose steels and cast iron
- 167 sizes

P ◉	P ◉	P ◉	P ◉	M ○	K ◉	K ◉	N ○	S ○	H ◉	H ○	H ○
C <0,2%	0,25<C<0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	AC, ADC	Ti	25-35 HRC	35-45 HRC	45-52 HRC

A	CARBIDE	EgiAs	30°	SHRINK FIT		140°	h8

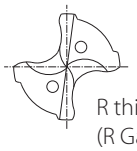
page 44

EDP	DC	LCF	OAL	DCON
8690950	9,5	48	106	10
8690960	9,6	48	106	10
8690970	9,7	49	106	10
8690975	9,75	49	106	10
8690980	9,8	49	106	10
8690990	9,9	50	106	10
8691000	10	50	106	10
8701010	10,1	51	113	12
8701020	10,2	51	113	12
8701030	10,3	52	113	12
8701040	10,4	52	113	12
8701050	10,5	53	113	12
8701060	10,6	53	113	12
8701070	10,7	54	113	12
8701080	10,8	54	113	12
8701090	10,9	55	113	12
8701100	11	55	113	12
8691110	11,1	56	120	12
8691120	11,2	56	120	12
8691130	11,3	57	120	12
8691140	11,4	57	120	12
8691150	11,5	58	120	12
8691160	11,6	58	120	12
8691170	11,7	59	120	12
8691180	11,8	59	120	12
8691190	11,9	60	120	12
8691200	12	60	120	12
8701210	12,1	61	128	14
8701220	12,2	61	128	14
8701230	12,3	62	128	14
8701240	12,4	62	128	14
8701250	12,5	63	128	14
8701260	12,6	63	128	14
8701270	12,7	64	128	14
8701280	12,8	64	128	14
8701290	12,9	65	128	14
8701300	13	65	128	14
8691310	13,1	66	134	14
8691320	13,2	66	134	14
8691330	13,3	67	134	14
8691340	13,4	67	134	14
8691350	13,5	68	134	14
8691360	13,6	68	134	14
8691370	13,7	69	134	14
8691380	13,8	69	134	14
8691390	13,9	70	134	14

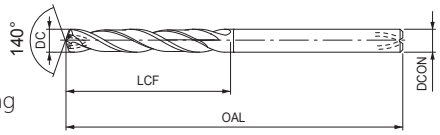
EDP	DC	LCF	OAL	DCON
8691400	14	70	134	14
8701410	14,1	71	140	16
8701420	14,2	71	140	16
8701430	14,3	72	140	16
8701440	14,4	72	140	16
8701450	14,5	73	140	16
8701460	14,6	73	140	16
8701470	14,7	74	140	16
8701480	14,8	74	140	16
8701490	14,9	75	140	16
8701500	15	75	140	16
8691510	15,1	76	145	16
8691520	15,2	76	145	16
8691530	15,3	77	145	16
8691540	15,4	77	145	16
8691550	15,5	78	145	16
8691560	15,6	78	145	16
8691570	15,7	79	145	16
8691580	15,8	79	145	16
8691590	15,9	80	145	16
8691600	16	80	145	16
8701650	16,5	83	150	18
8701700	17	85	150	18
8691750	17,5	88	155	18
8691800	18	90	155	18
8701850	18,5	93	160	20
8701900	19	95	160	20
8691950	19,5	98	165	20
8692000	20	100	165	20

ADO-5D

Drilling | Solid carbide | 5xD



R thinning
(R Gash)



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Up to 5xD
- For general purpose steels and cast iron
- 191 sizes

P	P	P	P	M	K	K	N	S	H	H	H
C <0,2%	0,25<C<0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	AC, ADC	Ti	25-35 HRC	35-45 HRC	45-52 HRC

A	CARBIDE	EgiAs	30°	SHRINK FIT		140°	h8

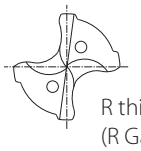
page 44

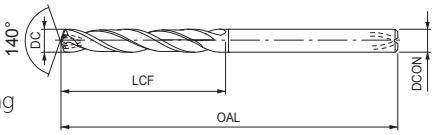
EDP	DC	LCF	OAL	DCON
8692200	2	18	70	3
8692210	2,1	19	70	3
8692220	2,2	20	70	3
8692230	2,3	21	70	3
8692240	2,4	22	70	3
8692250	2,5	23	70	3
8692260	2,6	24	78	3
8692265	2,65	24	78	3
8692270	2,7	25	78	3
8692276	2,76	25	78	3
8692278	2,78	26	78	3
8692280	2,8	26	78	3
8692290	2,9	27	78	3
8692300	3	27	78	3
8692310	3,1	28	86	4
8692315	3,15	29	86	4
8692320	3,2	29	86	4
8692330	3,3	30	86	4
8692340	3,4	31	86	4
8692350	3,5	32	86	4
8692360	3,6	33	86	4
8692366	3,66	33	86	4
8692368	3,68	34	86	4
8692370	3,7	34	86	4
8692375	3,75	34	86	4
8692380	3,8	35	86	4
8692390	3,9	36	86	4
8692400	4	36	86	4
8692410	4,1	37	95	5
8702410	4,1	37	95	6
8692420	4,2	38	95	5
8702420	4,2	38	95	6
8692430	4,3	39	95	5
8702430	4,3	39	95	6
8692440	4,4	40	95	5
8702440	4,4	40	95	6
8692450	4,5	41	95	5
8702450	4,5	41	95	6
8692460	4,6	42	95	5
8702460	4,6	42	95	6
8692462	4,62	42	95	5
8692464	4,64	42	95	5
8692470	4,7	43	95	5
8702470	4,7	43	95	6
8692480	4,8	44	95	5
8702480	4,8	44	95	6

EDP	DC	LCF	OAL	DCON
8692490	4,9	45	95	5
8702490	4,9	45	95	6
8692500	5	45	95	5
8702500	5	45	95	6
8692510	5,1	41	100	6
8692520	5,2	42	100	6
8692525	5,25	42	100	6
8692530	5,3	43	100	6
8692540	5,4	44	100	6
8692550	5,5	44	100	6
8692552	5,52	45	100	6
8692554	5,54	45	100	6
8692560	5,6	45	100	6
8692570	5,7	46	100	6
8692580	5,8	47	100	6
8692590	5,9	48	100	6
8692600	6	48	100	6
8702610	6,1	49	109	8
8702620	6,2	50	109	8
8702630	6,3	51	109	8
8702640	6,4	52	109	8
8702650	6,5	52	109	8
8702660	6,6	53	109	8
8702670	6,7	54	109	8
8702680	6,8	55	109	8
8702690	6,9	56	109	8
8702700	7	56	109	8
8692710	7,1	57	118	8
8692720	7,2	58	118	8
8692725	7,25	58	118	8
8692730	7,3	59	118	8
8692736	7,36	59	118	8
8692738	7,38	60	118	8
8692740	7,4	60	118	8
8692750	7,5	60	118	8
8692752	7,52	61	118	8
8692754	7,54	61	118	8
8692760	7,6	61	118	8
8692770	7,7	62	118	8
8692775	7,75	62	118	8
8692780	7,8	63	118	8
8692790	7,9	64	118	8
8692800	8	64	118	8
8702810	8,1	65	128	10
8702820	8,2	66	128	10
8702830	8,3	67	128	10

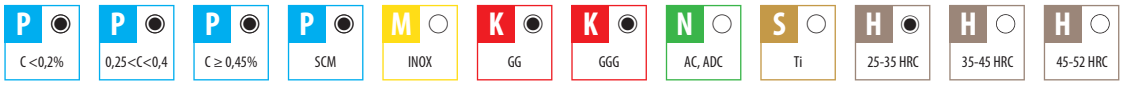
ADO-5D

Drilling | Solid carbide | 5xD





- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Up to 5xD
- For general purpose steels and cast iron
- 191 sizes



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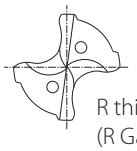
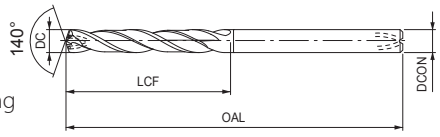
EDP	DC	LCF	OAL	DCON
8702840	8,4	68	128	10
8702850	8,5	68	128	10
8702860	8,6	69	128	10
8702870	8,7	70	128	10
8702880	8,8	71	128	10
8702890	8,9	72	128	10
8702900	9	72	128	10
8692910	9,1	73	136	10
8692920	9,2	74	136	10
8692924	9,24	74	136	10
8692925	9,25	74	136	10
8692926	9,26	75	136	10
8692930	9,3	75	136	10
8692936	9,36	75	136	10
8692938	9,38	76	136	10
8692940	9,4	76	136	10
8692950	9,5	76	136	10
8692952	9,52	77	136	10
8692954	9,54	77	136	10
8692960	9,6	77	136	10
8692970	9,7	78	136	10
8692975	9,75	78	136	10
8692980	9,8	79	136	10
8692990	9,9	80	136	10
8693000	10	80	136	10
8703010	10,1	81	146	12
8703020	10,2	82	146	12
8703030	10,3	83	146	12
8703040	10,4	84	146	12
8703050	10,5	84	146	12
8703060	10,6	85	146	12
8703070	10,7	86	146	12
8703080	10,8	87	146	12
8703090	10,9	88	146	12
8703100	11	88	146	12
8693110	11,1	89	156	12
8693120	11,2	90	156	12
8693122	11,22	90	156	12
8693124	11,24	90	156	12
8693130	11,3	91	156	12
8693136	11,36	91	156	12
8693138	11,38	92	156	12
8693140	11,4	92	156	12
8693150	11,5	92	156	12
8693160	11,6	93	156	12
8693170	11,7	94	156	12

EDP	DC	LCF	OAL	DCON
8693180	11,8	95	156	12
8693190	11,9	96	156	12
8693200	12	96	156	12
8703210	12,1	97	167	14
8703220	12,2	98	167	14
8703230	12,3	99	167	14
8703240	12,4	100	167	14
8703250	12,5	100	167	14
8703260	12,6	101	167	14
8703270	12,7	102	167	14
8703280	12,8	103	167	14
8703290	12,9	104	167	14
8703300	13	104	167	14
8693310	13,1	105	176	14
8693320	13,2	106	176	14
8693325	13,25	106	176	14
8693330	13,3	107	176	14
8693340	13,4	108	176	14
8693350	13,5	108	176	14
8693360	13,6	109	176	14
8693370	13,7	110	176	14
8693380	13,8	111	176	14
8693390	13,9	112	176	14
8693400	14	112	176	14
8703410	14,1	113	185	16
8703420	14,2	114	185	16
8703430	14,3	115	185	16
8703440	14,4	116	185	16
8703450	14,5	116	185	16
8703460	14,6	117	185	16
8703470	14,7	118	185	16
8703480	14,8	119	185	16
8703490	14,9	120	185	16
8703500	15	120	185	16
8693510	15,1	121	193	16
8693520	15,2	122	193	16
8693525	15,25	122	193	16
8693530	15,3	123	193	16
8693540	15,4	124	193	16
8693550	15,5	124	193	16
8693560	15,6	125	193	16
8693570	15,7	126	193	16
8693580	15,8	127	193	16
8693590	15,9	128	193	16
8693600	16	128	193	16
8703650	16,5	132	201	18

ADO-5D

Drilling | Solid carbide | 5xD





- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Up to 5xD
- For general purpose steels and cast iron
- 191 sizes

P ◉	P ◉	P ◉	P ◉	M ○	K ◉	K ◉	N ○	S ○	H ◉	H ○	H ○
C <0,2%	0,25<C<0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	AC, ADC	Ti	25-35 HRC	35-45 HRC	45-52 HRC

A	CARBIDE	EgiAs	30°	SHRINK FIT		140°	h8

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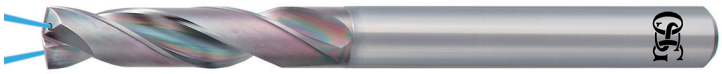
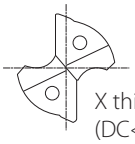
EDP	DC	LCF	OAL	DCON
8703700	17	136	201	18
8693750	17,5	140	209	18
8693800	18	144	209	18
8703850	18,5	148	217	20
8703900	19	152	217	20
8693950	19,5	156	225	20
8694000	20	160	225	20

EDP	DC	LCF	OAL	DCON

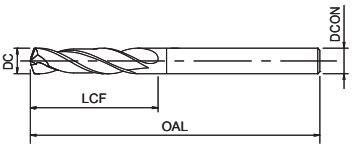
ADO-PLT

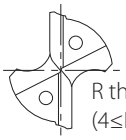
Drilling | Solid carbide | Pilot drills





X thinning
(DC<4)





R thinning
(4≤DC)

- First choice in quality and performance
- Carbide pilot drill with internal coolant, EgiAs coating
- For general purpose steels and cast iron
- 15 sizes

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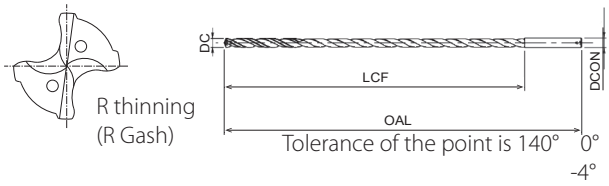
EDP	DC	LCF	OAL	DCON
8688903	3,03	15	65	3
8688923	3,53	18	70	4
8688904	4,03	20	70	4
8688924	4,53	23	75	5
8688905	5,03	25	75	5
8688925	5,53	28	80	6
8688906	6,03	30	80	6
8688926	6,53	33	85	7
8688907	7,03	35	85	7
8688908	8,03	40	90	8
8688928	8,53	43	95	9
8688909	9,03	45	95	9
8688910	10,03	50	100	10
8688911	11,03	55	115	11
8688912	12,03	60	120	12

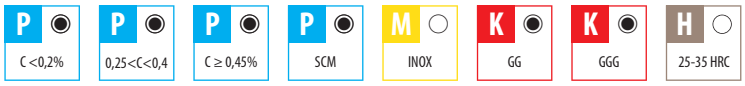
EDP	DC	LCF	OAL	DCON

ADO-10D

Drilling | Solid carbide | 10xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 10xD
- For general purpose steels and cast iron
- 102 sizes



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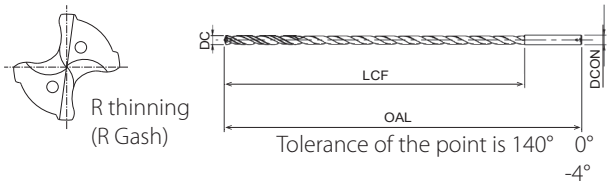
EDP	DC	LCF	OAL	DCON
8696200	2	26	75	3
8696210	2,1	33	75	3
8696220	2,2	33	75	3
8696230	2,3	33	75	3
8696240	2,4	33	75	3
8696250	2,5	33	75	3
8696260	2,6	40	90	3
8696270	2,7	40	90	3
8696280	2,8	40	90	3
8696290	2,9	40	90	3
8696300	3	40	90	3
8696310	3,1	45	100	4
8696320	3,2	45	100	4
8696330	3,3	45	100	4
8696340	3,4	50	100	4
8696350	3,5	50	100	4
8696360	3,6	50	100	4
8696370	3,7	50	100	4
8696380	3,8	50	100	4
8696390	3,9	50	100	4
8696400	4	50	100	4
8710410	4,1	55	115	6
8710420	4,2	55	115	6
8710430	4,3	60	115	6
8710440	4,4	60	115	6
8710450	4,5	60	115	6
8710460	4,6	60	115	6
8710470	4,7	65	115	6
8710480	4,8	65	115	6
8710490	4,9	65	115	6
8710500	5	65	115	6
8710510	5,1	70	128	6
8710520	5,2	70	128	6
8710530	5,3	70	128	6
8710540	5,4	78	128	6
8696550	5,5	78	128	6
8710560	5,6	78	128	6
8710570	5,7	78	128	6
8710580	5,8	78	128	6
8710590	5,9	78	128	6
8696600	6	78	128	6
8710610	6,1	87	140	8
8710620	6,2	87	140	8
8710630	6,3	87	140	8
8710640	6,4	87	140	8
8710650	6,5	87	140	8

EDP	DC	LCF	OAL	DCON
8710660	6,6	87	140	8
8710670	6,7	87	140	8
8710680	6,8	90	140	8
8710690	6,9	90	140	8
8710700	7	90	140	8
8710710	7,1	100	155	8
8710720	7,2	100	155	8
8710730	7,3	100	155	8
8710740	7,4	100	155	8
8696750	7,5	100	155	8
8710760	7,6	105	155	8
8710770	7,7	105	155	8
8710780	7,8	105	155	8
8710790	7,9	105	155	8
8696800	8	105	155	8
8710810	8,1	110	165	10
8710820	8,2	110	165	10
8710830	8,3	110	165	10
8710840	8,4	110	165	10
8710850	8,5	110	165	10
8710860	8,6	115	165	10
8710870	8,7	115	165	10
8710880	8,8	115	165	10
8710890	8,9	115	165	10
8710900	9	115	165	10
8710910	9,1	125	190	10
8710920	9,2	125	190	10
8710930	9,3	125	190	10
8710940	9,4	125	190	10
8696950	9,5	125	190	10
8710960	9,6	130	190	10
8710970	9,7	130	190	10
8710980	9,8	130	190	10
8710990	9,9	130	190	10
8697000	10	130	190	10
8711010	10,1	140	205	12
8711020	10,2	140	205	12
8711030	10,3	140	205	12
8711040	10,4	140	205	12
8711050	10,5	140	205	12
8711060	10,6	140	205	12
8711070	10,7	140	205	12
8711080	10,8	145	205	12
8711090	10,9	145	205	12
8711100	11	145	205	12
8711110	11,1	155	215	12

ADO-10D

Drilling | Solid carbide | 10xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 10xD
- For general purpose steels and cast iron
- 102 sizes

P C <0,2% | P 0,25<C<0,4 | P C ≥ 0,45% | P SCM | M INOX | K GG | K GGG | H 25-35 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | e8

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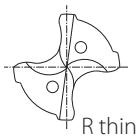
EDP	DC	LCF	OAL	DCON
8711120	11,2	155	215	12
8711130	11,3	155	215	12
8711140	11,4	155	215	12
8711150	11,5	155	215	12
8711160	11,6	155	215	12
8711170	11,7	155	215	12
8711180	11,8	155	215	12
8711190	11,9	155	215	12
8697200	12	155	215	12
8711250	12,5	155	215	14

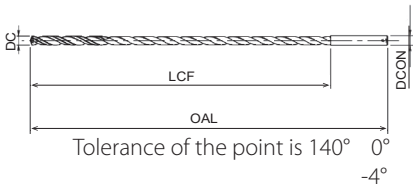
EDP	DC	LCF	OAL	DCON

ADO-15D

Drilling | Solid carbide | 15xD

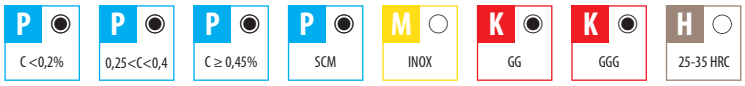


R thinning
(R Gash)



Tolerance of the point is 140° 0° -4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 15xD
- For general purpose steels and cast iron
- 102 sizes



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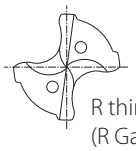
EDP	DC	LCF	OAL	DCON
48338120	2	36	90	3
48338121	2,1	38	90	3
48338122	2,2	40	90	3
48338123	2,3	42	90	3
48338124	2,4	44	90	3
48338125	2,5	45	96	3
48338126	2,6	47	96	3
48338127	2,7	49	96	3
48338128	2,8	51	96	3
48338129	2,9	53	96	3
8698300	3	55	105	3
8698310	3,1	60	125	4
8698320	3,2	60	125	4
8698330	3,3	60	125	4
8698340	3,4	65	125	4
8698350	3,5	65	125	4
8698360	3,6	65	125	4
8698370	3,7	65	125	4
8698380	3,8	75	125	4
8698390	3,9	75	125	4
8698400	4	75	125	4
8712410	4,1	75	140	6
8712420	4,2	75	140	6
8712430	4,3	85	140	6
8712440	4,4	85	140	6
8712450	4,5	85	140	6
8712460	4,6	85	140	6
8712470	4,7	85	140	6
8712480	4,8	90	140	6
8712490	4,9	90	140	6
8712500	5	90	140	6
8712510	5,1	95	160	6
8712520	5,2	95	160	6
8712530	5,3	95	160	6
8712540	5,4	110	160	6
8698550	5,5	110	160	6
8712560	5,6	110	160	6
8712570	5,7	110	160	6
8712580	5,8	110	160	6
8712590	5,9	110	160	6
8698600	6	110	160	6
8712610	6,1	120	175	8
8712620	6,2	120	175	8
8712630	6,3	120	175	8
8712640	6,4	120	175	8
8712650	6,5	120	175	8

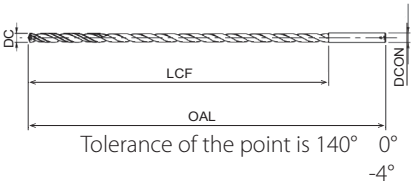
EDP	DC	LCF	OAL	DCON
8712660	6,6	120	175	8
8712670	6,7	120	175	8
8712680	6,8	125	175	8
8712690	6,9	125	175	8
8712700	7	125	175	8
8712710	7,1	135	195	8
8712720	7,2	135	195	8
8712730	7,3	135	195	8
8712740	7,4	135	195	8
8698750	7,5	135	195	8
8712760	7,6	145	195	8
8712770	7,7	145	195	8
8712780	7,8	145	195	8
8712790	7,9	145	195	8
8698800	8	145	195	8
8712810	8,1	155	210	10
8712820	8,2	155	210	10
8712830	8,3	155	210	10
8712840	8,4	155	210	10
8712850	8,5	155	210	10
8712860	8,6	160	210	10
8712870	8,7	160	210	10
8712880	8,8	160	210	10
8712890	8,9	160	210	10
8712900	9	160	210	10
8712910	9,1	170	240	10
8712920	9,2	170	240	10
8712930	9,3	170	240	10
8712940	9,4	170	240	10
8698950	9,5	170	240	10
8712960	9,6	180	240	10
8712970	9,7	180	240	10
8712980	9,8	180	240	10
8712990	9,9	180	240	10
8699000	10	180	240	10
8713010	10,1	190	260	12
8713020	10,2	190	260	12
8713030	10,3	190	260	12
8713040	10,4	190	260	12
8713050	10,5	190	260	12
8713060	10,6	190	260	12
8713070	10,7	200	260	12
8713080	10,8	200	260	12
8713090	10,9	200	260	12
8713100	11	200	260	12
8713110	11,1	210	280	12

ADO-15D

Drilling | Solid carbide | 15xD

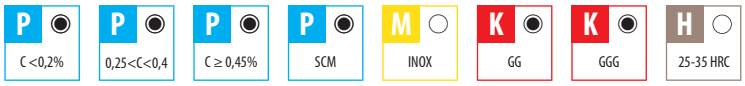


R thinning
(R Gash)



Tolerance of the point is 140° 0°
-4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 15xD
- For general purpose steels and cast iron
- 102 sizes



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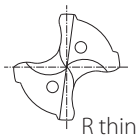
EDP	DC	LCF	OAL	DCON
8713120	11,2	210	280	12
8713130	11,3	210	280	12
8713140	11,4	210	280	12
8713150	11,5	210	280	12
8713160	11,6	210	280	12
8713170	11,7	210	280	12
8713180	11,8	210	280	12
8713190	11,9	215	280	12
8699200	12	215	280	12
8713250	12,5	225	290	14

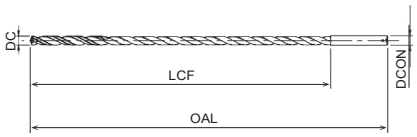
EDP	DC	LCF	OAL	DCON

ADO-20D

Drilling | Solid carbide | 20xD

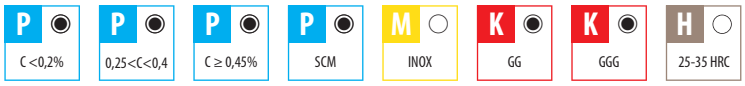


R thinning
(R Gash)



Tolerance of the point is 140° 0° -4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 20xD
- For general purpose steels and cast iron
- 102 sizes



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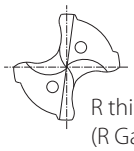
EDP	DC	LCF	OAL	DCON
48338220	2	46	100	3
48338221	2,1	49	100	3
48338222	2,2	51	100	3
48338223	2,3	53	100	3
48338224	2,4	56	100	3
48338225	2,5	58	109	3
48338226	2,6	60	109	3
48338227	2,7	63	109	3
48338228	2,8	65	109	3
48338229	2,9	67	109	3
8706300	3	70	120	3
8706310	3,1	80	140	4
8706320	3,2	80	140	4
8706330	3,3	80	140	4
8706340	3,4	85	140	4
8706350	3,5	85	140	4
8706360	3,6	85	140	4
8706370	3,7	85	140	4
8706380	3,8	90	140	4
8706390	3,9	90	140	4
8706400	4	90	140	4
8714410	4,1	100	165	6
8714420	4,2	100	165	6
8714430	4,3	110	165	6
8714440	4,4	110	165	6
8714450	4,5	110	165	6
8714460	4,6	110	165	6
8714470	4,7	110	165	6
8714480	4,8	115	165	6
8714490	4,9	115	165	6
8714500	5	115	165	6
8714510	5,1	120	190	6
8714520	5,2	120	190	6
8714530	5,3	120	190	6
8714540	5,4	140	190	6
8706550	5,5	140	190	6
8714560	5,6	140	190	6
8714570	5,7	140	190	6
8714580	5,8	140	190	6
8714590	5,9	140	190	6
8706600	6	140	190	6
8714610	6,1	155	210	8
8714620	6,2	155	210	8
8714630	6,3	155	210	8
8714640	6,4	155	210	8
8714650	6,5	155	210	8

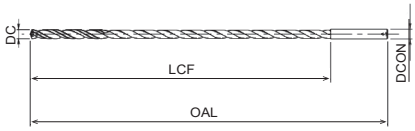
EDP	DC	LCF	OAL	DCON
8714660	6,6	155	210	8
8714670	6,7	155	210	8
8714680	6,8	160	210	8
8714690	6,9	160	210	8
8714700	7	160	210	8
8714710	7,1	170	230	8
8714720	7,2	170	230	8
8714730	7,3	170	230	8
8714740	7,4	170	230	8
8706750	7,5	170	230	8
8714760	7,6	180	230	8
8714770	7,7	180	230	8
8714780	7,8	180	230	8
8714790	7,9	180	230	8
8706800	8	180	230	8
8714810	8,1	195	260	10
8714820	8,2	195	260	10
8714830	8,3	195	260	10
8714840	8,4	195	260	10
8714850	8,5	195	260	10
8714860	8,6	210	260	10
8714870	8,7	210	260	10
8714880	8,8	210	260	10
8714890	8,9	210	260	10
8714900	9	210	260	10
8714910	9,1	220	290	10
8714920	9,2	220	290	10
8714930	9,3	220	290	10
8714940	9,4	220	290	10
8706950	9,5	220	290	10
8714960	9,6	230	290	10
8714970	9,7	230	290	10
8714980	9,8	230	290	10
8714990	9,9	230	290	10
8707000	10	230	290	10
8715010	10,1	250	310	12
8715020	10,2	250	310	12
8715030	10,3	250	310	12
8715040	10,4	250	310	12
8715050	10,5	250	310	12
8715060	10,6	250	310	12
8715070	10,7	250	310	12
8715080	10,8	250	310	12
8715090	10,9	250	310	12
8715100	11	250	310	12
8715110	11,1	270	330	12

ADO-20D

Drilling | Solid carbide | 20xD

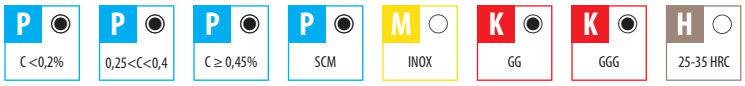


R thinning
(R Gash)



Tolerance of the point is 140° 0°
-4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 20xD
- For general purpose steels and cast iron
- 102 sizes



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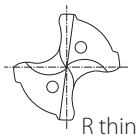
EDP	DC	LCF	OAL	DCON
8715120	11,2	270	330	12
8715130	11,3	270	330	12
8715140	11,4	270	330	12
8715150	11,5	270	330	12
8715160	11,6	270	330	12
8715170	11,7	270	330	12
8715180	11,8	270	330	12
8715190	11,9	270	330	12
8707200	12	270	330	12
8715250	12,5	280	330	14

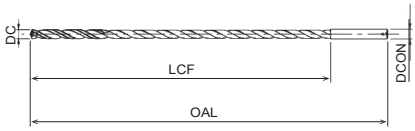
EDP	DC	LCF	OAL	DCON

ADO-25D

Drilling | Solid carbide | 25xD

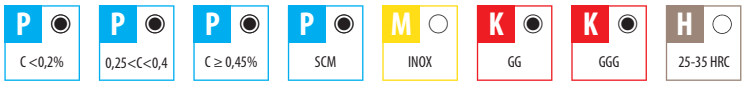


R thinning
(R Gash)



Tolerance of the point is 140° 0°
-4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 25xD
- For general purpose steels and cast iron
- 92 sizes



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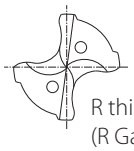
EDP	DC	LCF	OAL	DCON
48338325	2,5	70	121	3
8726300	3	85	135	3
8724310	3,1	95	165	4
8724320	3,2	95	165	4
8724330	3,3	95	165	4
8724340	3,4	105	165	4
8724350	3,5	105	165	4
8724360	3,6	105	165	4
8724370	3,7	105	165	4
8724380	3,8	115	165	4
8724390	3,9	115	165	4
8724400	4	115	165	4
8724410	4,1	120	190	6
8724420	4,2	120	190	6
8724430	4,3	135	190	6
8724440	4,4	135	190	6
8724450	4,5	135	190	6
8724460	4,6	135	190	6
8724470	4,7	135	190	6
8724480	4,8	140	190	6
8724490	4,9	140	190	6
8724500	5	140	190	6
8724510	5,1	150	220	6
8724520	5,2	150	220	6
8724530	5,3	150	220	6
8724540	5,4	170	220	6
8724550	5,5	170	220	6
8724560	5,6	170	220	6
8724570	5,7	170	220	6
8724580	5,8	170	220	6
8724590	5,9	170	220	6
8724600	6	170	220	6
8724610	6,1	190	250	8
8724620	6,2	190	250	8
8724630	6,3	190	250	8
8724640	6,4	190	250	8
8724650	6,5	190	250	8
8724660	6,6	190	250	8
8724670	6,7	190	250	8
8724680	6,8	200	250	8
8724690	6,9	200	250	8
8724700	7	200	250	8
8724710	7,1	210	275	8
8724720	7,2	210	275	8
8724730	7,3	210	275	8
8724740	7,4	210	275	8

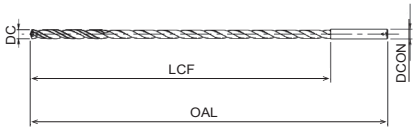
EDP	DC	LCF	OAL	DCON
8724750	7,5	210	275	8
8724760	7,6	225	275	8
8724770	7,7	225	275	8
8724780	7,8	225	275	8
8724790	7,9	225	275	8
8724800	8	225	275	8
8724810	8,1	240	305	10
8724820	8,2	240	305	10
8724830	8,3	240	305	10
8724840	8,4	240	305	10
8724850	8,5	240	305	10
8724860	8,6	255	305	10
8724870	8,7	255	305	10
8724880	8,8	255	305	10
8724890	8,9	255	305	10
8724900	9	255	305	10
8724910	9,1	270	340	10
8724920	9,2	270	340	10
8724930	9,3	270	340	10
8724940	9,4	270	340	10
8724950	9,5	270	340	10
8724960	9,6	280	340	10
8724970	9,7	280	340	10
8724980	9,8	280	340	10
8724990	9,9	280	340	10
8725000	10	280	340	10
8725010	10,1	310	370	12
8725020	10,2	310	370	12
8725030	10,3	310	370	12
8725040	10,4	310	370	12
8725050	10,5	310	370	12
8725060	10,6	310	370	12
8725070	10,7	310	370	12
8725080	10,8	310	370	12
8725090	10,9	310	370	12
8725100	11	310	370	12
8725110	11,1	340	400	12
8725120	11,2	340	400	12
8725130	11,3	340	400	12
8725140	11,4	340	400	12
8725150	11,5	340	400	12
8725160	11,6	340	400	12
8725170	11,7	340	400	12
8725180	11,8	340	400	12

ADO-25D

Drilling | Solid carbide | 25xD

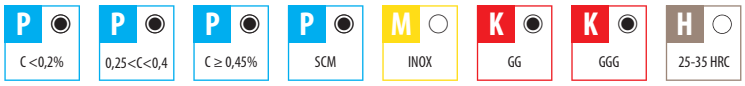


R thinning
(R Gash)



Tolerance of the point is 140° 0°
-4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 25xD
- For general purpose steels and cast iron
- 92 sizes



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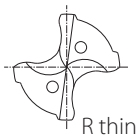
EDP	DC	LCF	OAL	DCON
8725190	11,9	340	400	12
8725200	12	340	400	12

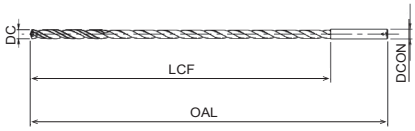
EDP	DC	LCF	OAL	DCON

ADO-30D

Drilling | Solid carbide | 30xD



R thinning
(R Gash)



Tolerance of the point is 140° 0° -4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 30xD
- For general purpose steels and cast iron
- 81 sizes

P C <0,2% | P 0,25<C<0,4 | P C ≥ 0,45% | P SCM | M INOX | K GG | K GGG | H 25-35 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | e8

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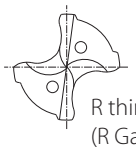
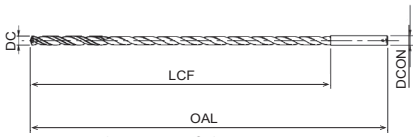
EDP	DC	LCF	OAL	DCON
48338420	2	66	120	3
48338421	2,1	70	120	3
48338422	2,2	73	120	3
48338423	2,3	76	120	3
48338424	2,4	80	120	3
48338425	2,5	83	134	3
48338426	2,6	86	134	3
48338427	2,7	90	134	3
48338428	2,8	93	134	3
48338429	2,9	96	134	3
8708300	3	100	150	3
8708310	3,1	102	185	4
8708320	3,2	105	185	4
8708330	3,3	109	185	4
8708340	3,4	112	185	4
8708350	3,5	116	185	4
8708360	3,6	116	185	4
8708370	3,7	116	185	4
8708380	3,8	132	185	4
8708390	3,9	132	185	4
8708400	4	132	185	4
8716410	4,1	140	215	6
8716420	4,2	140	215	6
8716430	4,3	150	215	6
8716440	4,4	150	215	6
8716450	4,5	150	215	6
8716460	4,6	150	215	6
8716470	4,7	150	215	6
8716480	4,8	165	215	6
8716490	4,9	165	215	6
8716500	5	165	215	6
8716510	5,1	180	250	6
8716520	5,2	180	250	6
8716530	5,3	180	250	6
8716540	5,4	200	250	6
8708550	5,5	200	250	6
8716560	5,6	200	250	6
8716570	5,7	200	250	6
8716580	5,8	200	250	6
8716590	5,9	200	250	6
8708600	6	200	250	6
8716610	6,1	215	280	8
8716620	6,2	215	280	8
8716630	6,3	215	280	8
8716640	6,4	215	280	8
8716650	6,5	215	280	8

EDP	DC	LCF	OAL	DCON
8716660	6,6	215	280	8
8716670	6,7	215	280	8
8716680	6,8	230	280	8
8716690	6,9	230	280	8
8716700	7	230	280	8
8716710	7,1	250	315	8
8716720	7,2	250	315	8
8716730	7,3	250	315	8
8716740	7,4	250	315	8
8708750	7,5	250	315	8
8716760	7,6	265	315	8
8716770	7,7	265	315	8
8716780	7,8	265	315	8
8716790	7,9	265	315	8
8708800	8	265	315	8
8716810	8,1	280	350	10
8716820	8,2	280	350	10
8716830	8,3	280	350	10
8716840	8,4	280	350	10
8716850	8,5	280	350	10
8716860	8,6	300	350	10
8716870	8,7	300	350	10
8716880	8,8	300	350	10
8716890	8,9	300	350	10
8716900	9	300	350	10
8716910	9,1	315	390	10
8716920	9,2	315	390	10
8716930	9,3	315	390	10
8716940	9,4	315	390	10
8708950	9,5	315	390	10
8716960	9,6	330	390	10
8716970	9,7	330	390	10
8716980	9,8	330	390	10
8716990	9,9	330	390	10
8709000	10	330	390	10

ADO-40D

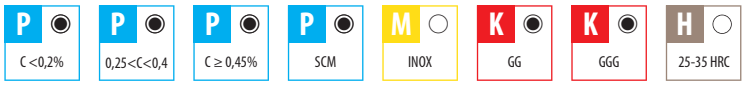
Drilling | Solid carbide | 40xD





Tolerance of the point is 140° 0° -4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 40xD
- For general purpose steels and cast iron
- 23 sizes



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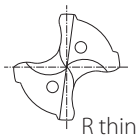
EDP	DC	LCF	OAL	DCON
8717300	3	129	179	3
8717320	3,2	138	188	4
8717350	3,5	151	210	4
8717400	4	172	222	4
8717450	4,5	194	256	6
8717480	4,8	207	265	6
8717500	5	215	265	5
8719501	5	215	265	6
8717550	5,5	237	296	6
8717600	6	258	308	6
8717630	6,3	271	329	8
8717635	6,35	274	329	8
8717650	6,5	280	342	8
8717680	6,8	293	351	8
8717700	7	301	351	8
8717750	7,5	323	382	8
8717790	7,9	340	394	8
8717800	8	344	394	8
8717820	8,2	353	408	10
8717830	8,3	357	417	10
8717850	8,5	366	430	10
8717900	9	387	442	10
8718000	10	430	490	10

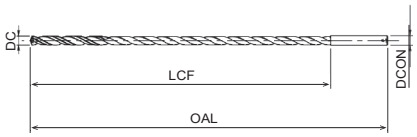
EDP	DC	LCF	OAL	DCON

ADO-50D

Drilling | Solid carbide | 50xD

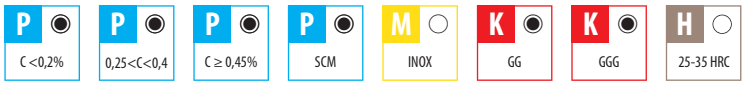


R thinning
(R Gash)



Tolerance of the point is 140° 0° -4°

- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- Double margin, up to 50xD
- For general purpose steels and cast iron
- 26 sizes



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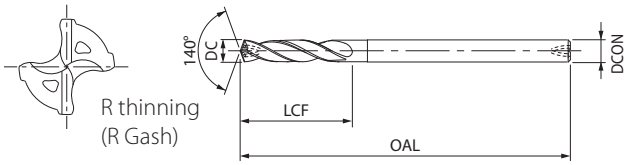
EDP	DC	LCF	OAL	DCON
8718300	3	159	209	3
8718301	3,175	169	220	4
8718320	3,2	170	220	4
8718350	3,5	186	247	4
8718400	4	212	262	4
8718450	4,5	239	303	4
8718500	5	265	315	5
8718501	5	265	315	6
8718540	5,4	287	337	6
8718550	5,5	292	353	6
8718570	5,7	303	353	6
8718600	6	318	368	6
8718620	6,2	329	382	8
8718630	6,3	334	393	8
8718635	6,35	337	393	8
8718640	6,4	340	393	8
8718650	6,5	345	409	8
8718680	6,8	361	421	8
8718700	7	371	421	8
8718750	7,5	398	459	8
8718770	7,7	409	459	8
8718800	8	424	474	8
8718820	8,2	435	490	10
8718830	8,3	440	500	10
8718840	8,4	446	500	10
8718850	8,5	450	500	10

EDP	DC	LCF	OAL	DCON

ADOX-3D NEW

Drilling | Solid carbide | 3xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- For general purpose steels and cast iron
- Mega Cooler oil hole for optimized coolant flow

P	P	P	P	M	K	K	N	S	H	H	H
C <0,2%	0,25<C<0,4	C ≥ 0,45%	SCM	INOX	GG	GGG	AC, ADC	Ti	25-35 HRC	35-45 HRC	45-52 HRC

A	CARBIDE	EgiAs	30°	SHRINK FIT		140°	h8

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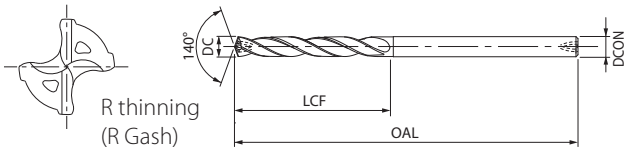
EDP	DC	LCF	OAL	DCON
8733200	2	12	66	3
8733230	2,3	14	66	3
8733250	2,5	15	66	3
8733260	2,6	16	66	3
8733276	2,76	17	66	3
8733278	2,78	17	66	3
8733280	2,8	17	66	3
8733290	2,9	18	66	3
8733300	3	18	66	3
8733320	3,2	20	74	4
8733330	3,3	20	74	4
8733340	3,4	21	74	4
8733350	3,5	21	74	4
8733360	3,6	22	74	4
8733366	3,66	22	74	4
8733368	3,68	23	74	4
8733370	3,7	23	74	4
8733375	3,75	23	74	4
8733390	3,9	24	74	4
8733420	4,2	26	80	6
8733430	4,3	26	80	6
8733450	4,5	27	80	6
8733460	4,6	28	80	6
8733462	4,62	28	80	6
8733464	4,64	28	80	6
8733490	4,9	30	80	6
8733500	5	25	80	6
8733510	5,1	26	82	6
8733520	5,2	26	82	6
8733525	5,25	27	82	6
8733552	5,52	28	82	6
8733554	5,54	28	82	6
8733560	5,6	28	82	6
8733600	6	30	82	6

EDP	DC	LCF	OAL	DCON

ADOX-5D NEW

Drilling | Solid carbide | 5xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- For general purpose steels and cast iron
- Mega Cooler oil hole for optimized coolant flow

P C <0,2% | P 0,25<C<0,4 | P C ≥ 0,45% | P SCM | M INOX | K GG | K GGG | N AC, ADC | S Ti | H 25-35 HRC | H 35-45 HRC | H 45-52 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | h8

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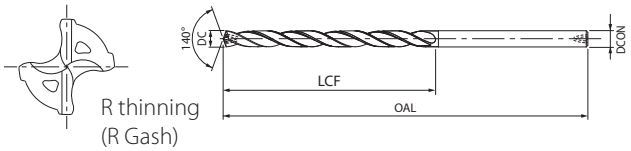
EDP	DC	LCF	OAL	DCON
8734200	2	18	70	3
8734230	2,3	21	70	3
8734250	2,5	23	70	3
8734260	2,6	24	78	3
8734270	2,7	25	78	3
8734280	2,8	26	78	3
8734290	2,9	27	78	3
8734300	3	27	78	3
8734320	3,2	29	86	4
8734330	3,3	30	86	4
8734340	3,4	31	86	4
8734350	3,5	32	86	4
8734360	3,6	33	86	4
8734380	3,8	35	86	4
8734390	3,9	36	86	4
8734400	4	36	86	4
8734410	4,1	37	95	6
8734420	4,2	38	95	6
8734430	4,3	39	95	6
8734450	4,5	41	95	6
8734460	4,6	42	95	6
8734480	4,8	44	95	6
8734490	4,9	45	95	6
8734500	5	45	95	6
8734510	5,1	41	100	6
8734520	5,2	42	100	6
8734530	5,3	43	100	6
8734550	5,5	44	100	6
8734560	5,6	45	100	6
8734580	5,8	47	100	6
8734600	6	48	100	6

EDP	DC	LCF	OAL	DCON

ADOX-8D NEW

Drilling | Solid carbide | 8xD



- First choice in quality and performance
- Carbide drill with internal coolant, EgiAs coating
- For general purpose steels and cast iron
- Double margin
- Mega Cooler oil hole for optimized coolant flow

P C <0,2% | P 0,25<C<0,4 | P C ≥ 0,45% | P SCM | M INOX | K GG | K GGG | N AC, ADC | S Ti | H 25-35 HRC | H 35-45 HRC | H 45-52 HRC

A | CARBIDE | EgiAs | 30° | SHRINK FIT | 140° | h8

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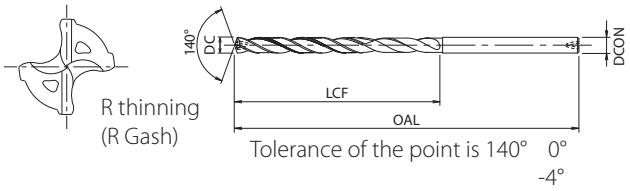
EDP	DC	LCF	OAL	DCON
8735200	2	22	75	3
8735210	2,1	24	75	3
8735220	2,2	25	75	3
8735230	2,3	26	75	3
8735280	2,8	31	80	3
8735300	3	33	80	3
8735330	3,3	36	95	4
8735340	3,4	37	95	4
8735380	3,8	42	95	4
8735500	5	55	105	6
8735540	5,4	59	115	6
8735550	5,5	61	115	6
8735600	6	66	115	6

EDP	DC	LCF	OAL	DCON

ADOX-10D NEW

Drilling | Solid carbide | 10xD



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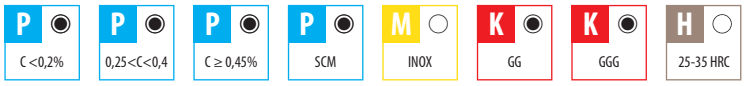

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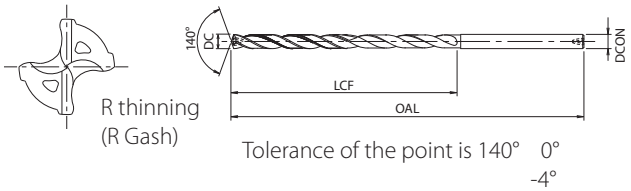
EDP	DC	LCF	OAL	DCON
8736240	2,4	33	75	3
8736250	2,5	33	75	3
8736260	2,6	40	90	3
8736280	2,8	40	90	3
8736290	2,9	40	90	3
8736300	3	40	90	3
8736310	3,1	45	100	4
8736320	3,2	45	100	4
8736330	3,3	45	100	4
8736340	3,4	50	100	4
8736370	3,7	50	100	4
8736380	3,8	50	100	4
8736400	4	50	100	4
8736420	4,2	55	115	6
8736430	4,3	60	115	6
8736440	4,4	60	115	6
8736470	4,7	65	115	6
8736480	4,8	65	115	6
8736500	5	65	115	6
8736530	5,3	70	128	6
8736560	5,6	78	128	6
8736600	6	78	128	6

EDP	DC	LCF	OAL	DCON

ADOX-15D NEW

Drilling | Solid carbide | 15xD



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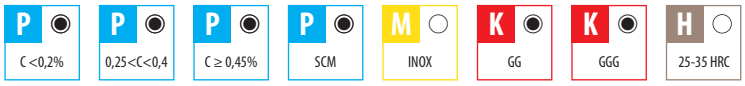
- For general purpose steels and cast iron
- Double margin
- Mega Cooler oil hole for optimized coolant flow



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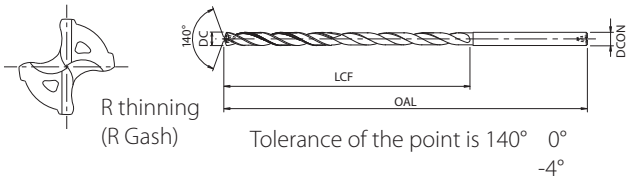
EDP	DC	LCF	OAL	DCON
8737230	2,3	42	90	3
8737240	2,4	44	90	3
8737250	2,5	45	96	3
8737260	2,6	47	96	3
8737270	2,7	49	96	3
8737280	2,8	51	96	3
8737290	2,9	53	96	3
8737300	3	55	105	3
8737310	3,1	60	125	4
8737320	3,2	60	125	4
8737330	3,3	60	125	4
8737350	3,5	65	125	4
8737360	3,6	65	125	4
8737400	4	75	125	4
8737420	4,2	75	140	6
8737430	4,3	85	140	6
8737470	4,7	85	140	6
8737480	4,8	90	140	6
8737490	4,9	90	140	6
8737510	5,1	95	160	6
8737520	5,2	95	160	6
8737550	5,5	110	160	6
8737580	5,8	110	160	6
8737600	6	110	160	6

EDP	DC	LCF	OAL	DCON

ADOX-20D NEW

Drilling | Solid carbide | 20xD



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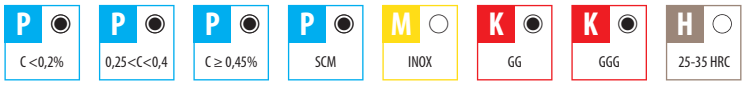
- Mega Cooler oil hole for optimized coolant flow



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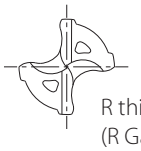
EDP	DC	LCF	OAL	DCON
8738230	2,3	53	100	3
8738240	2,4	56	100	3
8738250	2,5	58	109	3
8738260	2,6	60	109	3
8738270	2,7	63	109	3
8738280	2,8	65	109	3
8738290	2,9	67	109	3
8738300	3	70	120	3
8738310	3,1	80	140	4
8738320	3,2	80	140	4
8738330	3,3	80	140	4
8738340	3,4	85	140	4
8738350	3,5	85	140	4
8738400	4	90	140	4
8738420	4,2	100	165	6
8738450	4,5	110	165	6
8738480	4,8	115	165	6
8738500	5	115	165	6
8738510	5,1	120	190	6
8738560	5,6	140	190	6
8738570	5,7	140	190	6
8738600	6	140	190	6

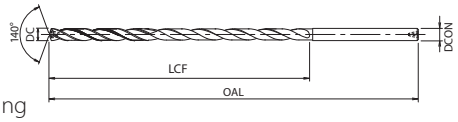
EDP	DC	LCF	OAL	DCON

ADOX-25D NEW

Drilling | Solid carbide | 25xD



R thinning
(R Gash)



Tolerance of the point is 140° 0° -4°

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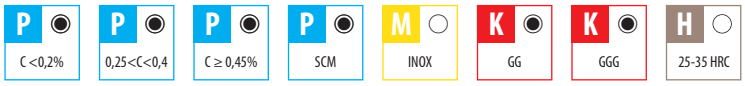

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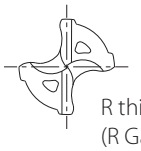
EDP	DC	LCF	OAL	DCON
8739230	2,3	65	110	3
8739240	2,4	68	110	3
8739250	2,5	70	122	3
8739260	2,6	73	122	3
8739270	2,7	76	122	3
8739280	2,8	79	122	3
8739290	2,9	82	122	3
8739300	3	85	135	3
8739340	3,4	105	165	4
8739500	5	140	190	6
8739600	6	170	220	6

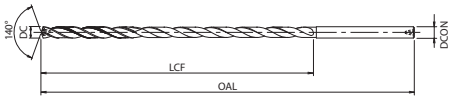
EDP	DC	LCF	OAL	DCON

ADOX-30D NEW

Drilling | Solid carbide | 30xD



R thinning
(R Gash)



Tolerance of the point is 140° 0°
-4°

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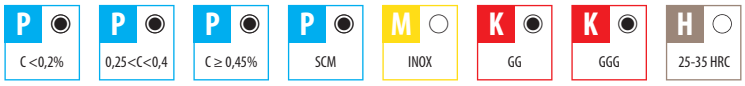

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EDP	DC	LCF	OAL	DCON
8740230	2,3	76	120	3
8740240	2,4	80	120	3
8740250	2,5	83	134	3
8740260	2,6	86	134	3
8740270	2,7	90	134	3
8740280	2,8	93	134	3
8740290	2,9	96	134	3
8740300	3	100	150	3
8740310	3,1	102	185	4
8740320	3,2	105	185	4
8740350	3,5	116	185	4
8740370	3,7	116	185	4
8740400	4	132	185	4
8740420	4,2	140	215	6
8740480	4,8	165	215	6
8740500	5	165	215	6
8740600	6	200	250	6

EDP	DC	LCF	OAL	DCON

CUTTING CONDITIONS

Drilling | Solid | Cutting conditions

AD-2D/AD-4D

Standard drilling

	C<0,35% (C<0,35%) St40 • SCM ~710 N/mm2		C<0,35% (C≥0,35%) CK50 ~1060 N/mm2		Special Alloy SUJ2		SUS Serie SUS300 Serie SUS400		Hardened Steel SKD61 43 HRC		43 ~ 48 HRC		GG GG25 ~ 350 N/mm²		GGG GGG40 ~ 500 N/mm²	
Vc	63 ~ 100 m/min		63 ~ 100 m/min		50 ~ 71 m/min		25 ~ 40 m/min		40 ~ 63 m/min		32 ~ 45 m/min		63 ~ 100 m/min		50 ~ 80 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2	11.000	0,06~0,08	11.000	0,06~0,08	9.000	0,06~0,08	4.700	0,06~0,08	7.600	0,06~0,08	6.000	0,06~0,08	12.000	0,06~0,08	10.000	0,06~0,08
3	8.000	0,09~0,12	8.000	0,09~0,12	6.000	0,09~0,12	3.200	0,09~0,12	5.000	0,09~0,12	4.000	0,09~0,12	8.000	0,09~0,12	6.900	0,09~0,12
4	6.300	0,10~0,15	6.300	0,10~0,15	4.750	0,10~0,15	2.400	0,10~0,15	3.800	0,10~0,15	3.000	0,10~0,15	6.300	0,10~0,15	5.200	0,10~0,15
5	5.000	0,12~0,18	5.000	0,12~0,18	3.800	0,12~0,18	1.900	0,12~0,18	3.000	0,12~0,18	2.450	0,12~0,18	5.000	0,12~0,18	4.100	0,12~0,18
6	4.200	0,14~0,20	4.200	0,14~0,20	3.200	0,14~0,20	1.600	0,14~0,20	2.550	0,14~0,20	2.050	0,14~0,20	4.200	0,14~0,20	3.450	0,14~0,20
8	3.200	0,16~0,24	3.200	0,16~0,24	2.400	0,16~0,24	1.200	0,16~0,24	1.900	0,16~0,24	1.550	0,16~0,24	3.200	0,16~0,24	2.600	0,16~0,24
10	2.550	0,18~0,27	2.550	0,18~0,27	1.900	0,18~0,27	950	0,18~0,27	1.550	0,18~0,27	1.250	0,18~0,27	2.600	0,18~0,27	2.100	0,18~0,27
12	2.100	0,20~0,30	2.100	0,20~0,30	1.600	0,20~0,30	800	0,20~0,30	1.300	0,20~0,30	1.050	0,20~0,30	2.200	0,20~0,30	1.750	0,20~0,30
14	1.800	0,22~0,35	1.800	0,22~0,35	1.350	0,22~0,35	700	0,22~0,35	1.100	0,22~0,35	880	0,22~0,35	1.800	0,22~0,35	1.500	0,22~0,35
16	1.600	0,25~0,36	1.600	0,25~0,36	1.200	0,25~0,36	600	0,25~0,36	950	0,25~0,36	770	0,25~0,36	1.600	0,25~0,36	1.300	0,25~0,36
18	1.400	0,28~0,38	1.400	0,28~0,38	1.050	0,28~0,38	530	0,28~0,38	850	0,28~0,38	680	0,28~0,38	1.400	0,28~0,38	1.200	0,28~0,38
20	1.300	0,30~0,40	1.300	0,30~0,40	960	0,30~0,40	480	0,30~0,40	760	0,30~0,40	610	0,30~0,40	1.300	0,30~0,40	1.050	0,30~0,40

ADO-3D/5D/ADO-PLT

	Carbon Steel S50C		Alloy Steel SCM440		Alloy Steel SCM440 • 30HRC		Cast Iron FC250		Ductile Cast IRON FCD700		Stainless Steel SUS304	
Vc	80 ~ 120 m/min		80 ~ 120 m/min		60 ~ 90 m/min		80 ~ 120 m/min		60 ~ 100 m/min		40 ~ 70 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2	12.700	0,04~0,08	12.700	0,04~0,08	11.100	0,04~0,08	12.700	0,04~0,08	12.700	0,04~0,08	9.500	0,04~0,08
3	10.600	0,06~0,12	10.600	0,06~0,12	7.400	0,06~0,12	10.600	0,06~0,12	8.500	0,06~0,12	6.400	0,06~0,12
4	8.000	0,08~0,16	8.000	0,08~0,16	5.600	0,08~0,16	8.000	0,08~0,16	6.400	0,08~0,16	4.800	0,08~0,16
5	6.400	0,10~0,20	6.400	0,10~0,20	4.500	0,10~0,20	6.400	0,10~0,20	5.100	0,10~0,20	3.800	0,10~0,20
6	5.300	0,12~0,24	5.300	0,12~0,24	3.700	0,12~0,24	5.300	0,12~0,24	4.200	0,12~0,24	3.200	0,12~0,24
7	4.500	0,14~0,26	4.500	0,14~0,26	3.200	0,14~0,26	4.500	0,14~0,26	3.600	0,14~0,26	2.700	0,14~0,26
8	4.000	0,16~0,28	4.000	0,16~0,28	2.800	0,16~0,28	4.000	0,16~0,28	3.200	0,16~0,28	2.400	0,16~0,28
9	3.500	0,18~0,30	3.500	0,18~0,30	2.500	0,18~0,30	3.500	0,18~0,30	2.800	0,18~0,30	2.100	0,18~0,30
10	3.200	0,20~0,30	3.200	0,20~0,30	2.200	0,20~0,30	3.200	0,20~0,30	2.500	0,20~0,30	1.900	0,20~0,30
11	2.900	0,20~0,30	2.900	0,20~0,30	2.000	0,20~0,30	2.900	0,20~0,30	2.300	0,20~0,30	1.700	0,20~0,30
12	2.700	0,21~0,30	2.700	0,21~0,30	1.900	0,21~0,30	2.700	0,21~0,30	2.100	0,21~0,30	1.600	0,21~0,30
13	2.400	0,21~0,33	2.400	0,21~0,33	1.700	0,21~0,33	2.400	0,21~0,33	2.000	0,21~0,33	1.500	0,21~0,33
14	2.300	0,22~0,35	2.300	0,22~0,35	1.600	0,22~0,35	2.300	0,22~0,35	1.800	0,22~0,35	1.400	0,22~0,35
16	2.000	0,25~0,36	2.000	0,25~0,36	1.400	0,25~0,36	2.000	0,25~0,36	1.600	0,25~0,36	1.200	0,25~0,36
18	1.800	0,28~0,38	1.800	0,28~0,38	1.200	0,28~0,38	1.800	0,28~0,38	1.400	0,28~0,38	1.100	0,28~0,38
20	1.600	0,30~0,40	1.600	0,30~0,40	1.100	0,30~0,40	1.600	0,30~0,40	1.300	0,30~0,40	1.000	0,30~0,40

CUTTING CONDITIONS

Drilling | Solid | Cutting conditions

ADO-10D/15D/20D/30D

	Mild Steel - Low Carbon Steel SS400 • S10C ~150HB ~500 N/mm²		Carbon Steel S35C • S50C ~210HB ~710 N/mm²		Alloys Steel SCM • SCr • SNCM 16~28HRC 710~900 N/mm²		Cast Iron FC250 ~350 N/mm²		Ductile Cast Iron FCD450 • FCD600 400~600 N/mm²		Stainless Steel SUS400 400 ~ 800 N/mm²	
Vc	60 ~ 125 m/min		60 ~ 125 m/min		60 ~ 125 m/min		60 ~ 125 m/min		50 ~ 80 m/min		40 ~ 80 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2	11.000	0,04 ~ 0,08	11.000	0,04 ~ 0,08	11.000	0,04 ~ 0,08	11.000	0,04 ~ 0,08	11.000	0,04 ~ 0,08	8.000	0,04 ~ 0,08
3	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	5.300	0,06 ~ 0,12
4	6.400	0,08 ~ 0,16	6.400	0,08 ~ 0,16	6.400	0,08 ~ 0,16	6.400	0,08 ~ 0,16	5.600	0,08 ~ 0,16	5.000	0,08 ~ 0,16
5	5.800	0,10 ~ 0,20	5.800	0,10 ~ 0,20	5.800	0,10 ~ 0,20	5.800	0,10 ~ 0,20	4.500	0,10 ~ 0,20	4.500	0,10 ~ 0,20
6	4.800	0,12 ~ 0,24	4.800	0,12 ~ 0,24	4.800	0,12 ~ 0,24	4.800	0,12 ~ 0,24	3.800	0,12 ~ 0,24	3.800	0,12 ~ 0,24
8	3.600	0,16 ~ 0,28	3.600	0,16 ~ 0,28	3.600	0,16 ~ 0,28	3.600	0,16 ~ 0,28	2.800	0,16 ~ 0,28	2.800	0,16 ~ 0,28
10	2.900	0,20 ~ 0,35	2.900	0,20 ~ 0,35	2.900	0,20 ~ 0,35	2.900	0,20 ~ 0,35	2.300	0,20 ~ 0,35	2.300	0,20 ~ 0,35
12	2.400	0,24 ~ 0,42	2.400	0,24 ~ 0,42	2.400	0,24 ~ 0,42	2.400	0,24 ~ 0,42	1.900	0,24 ~ 0,42	1.900	0,24 ~ 0,42

ADO-40D/50D

	Mild Steel - Low Carbon Steel SS400 - S10C ~150HB ~500 N/mm²		Carbon Steel S35C - S50C ~210HB ~710 N/mm²		Alloy Steel SCM - SCr - sncm 16~28HRC 710 ~900 N/mm²		Alloy Steel (C ≥0,3%) SCM440 28~35HRC 900~1,060N/mm²	
Vc	60~90m/min		60~90m/min		50~80m/min		40~70m/min	
Ø	S (min⁻¹)	f (mm/rev.)	S (min⁻¹)	f (mm/rev.)	S (min⁻¹)	f (mm/rev.)	S (min⁻¹)	f (mm/rev.)
3	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	6.400	0,06 ~ 0,12	5.300	0,06 ~ 0,11
4	5.600	0,08 ~ 0,16	5.600	0,08 ~ 0,16	4.800	0,08 ~ 0,16	4.000	0,08 ~ 0,14
5	4.500	0,1 ~ 0,2	4.500	0,1 ~ 0,2	3.800	0,1 ~ 0,2	3.200	0,1 ~ 0,17
6	3.700	0,12 ~ 0,24	3.700	0,12 ~ 0,24	3.200	0,12 ~ 0,24	2.700	0,12 ~ 0,21
8	2.800	0,16 ~ 0,28	2.800	0,16 ~ 0,28	2.400	0,16 ~ 0,28	2.000	0,16 ~ 0,24
10	2.300	0,2 ~ 0,35	2.300	0,2 ~ 0,35	1.900	0,2 ~ 0,35	1.600	0,2 ~ 0,3

	Cast Iron FC250 ~350N/mm²		Ductile Cast Iron FCD450 - FCD600 400 ~600 N/mm²		Stainless Steel SUS300/400 480 ~800 N/mm²	
Vc	60~90m/min		50~80m/min		40~60m/min	
Ø	S (min⁻¹)	f (mm/rev.)	S (min⁻¹)	f (mm/rev.)	S (min⁻¹)	f (mm/rev.)
3	7.500	0,06 ~ 0,12	6.400	0,06 ~ 0,12	5.300	0,06 ~ 0,12
4	5.600	0,08 ~ 0,16	4.800	0,08 ~ 0,16	4.000	0,08 ~ 0,16
5	4.500	0,1 ~ 0,2	3.800	0,1 ~ 0,2	3.200	0,1 ~ 0,2
6	3.700	0,12 ~ 0,24	3.200	0,12 ~ 0,24	2.700	0,12 ~ 0,24
8	2.800	0,16 ~ 0,28	2.400	0,16 ~ 0,28	2.000	0,16 ~ 0,28
10	2.300	0,2 ~ 0,35	1.900	0,2 ~ 0,35	1.600	0,2 ~ 0,35

1. The indicated speeds and feeds are for drilling with water-soluble coolant or MQL (mist drilling in stainless steels is not recommended).
2. Water-soluble high density coolant (20-30 times dilution) is recommended.
3. When using non-water-soluble coolant, set the cutting speed between 70-100% of the lowest limit.
4. Make a pilot hole before using in accordance with the recommended operation.
5. A clogged oil hole can lead to breakage. Make sure that a filter is attached to the oil feeder.
6. Peck drilling of 1D - 2D is strongly recommended.

*If it is difficult to process or if the straightness of the hole needed to be improved, use the coolant-through carbide drill ADO-20/30D after drilling a pilot hole, then process with the ADO-40/50D. When processing with 3 tools, the ADO-40/50D may be used at a more aggressive cutting condition than those listed above.

CUTTING CONDITIONS

Drilling | Solid | Cutting conditions

ADOX-3D/5D/8D

	Mild Steel - Low Carbon Steel SS400 • S10C ~150HB ~500 N/mm²		Carbon Steel S35C • S50C ~210HB ~710 N/mm²		Alloy Steel SCM • SCr • SNCM 16~28HRC 710~900 N/mm²		Alloy Steel SCM • SCr • SNCM 28~35HRC 900~1.100N/mm²	
Vc	80 ~ 120 m/min		80 ~ 160 m/min		80 ~ 120 m/min		60 ~ 90 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2	12.700	0,04 ~ 0,08	12.700	0,04 ~ 0,08	12.700	0,04 ~ 0,08	11.100	0,04 ~ 0,08
3	10.600	0,06 ~ 0,12	10.600	0,06 ~ 0,12	10.600	0,06 ~ 0,12	7.400	0,06 ~ 0,12
4	8.000	0,08 ~ 0,16	8.000	0,08 ~ 0,16	8.000	0,08 ~ 0,16	5.600	0,08 ~ 0,16
5	6.400	0,10 ~ 0,20	6.400	0,10 ~ 0,20	6.400	0,10 ~ 0,20	4.500	0,10 ~ 0,20
6	5.300	0,12 ~ 0,24	5.300	0,12 ~ 0,24	5.300	0,12 ~ 0,24	3.700	0,12 ~ 0,24

	Cast Iron FC250 ~350 N/mm²		Ductile Cast Iron FCD450 - FCD600 400 ~600 N/mm²		Stainless Steel SUS300/400 480 ~800 N/mm²		Special Alloy Steel - Hardened Steel - Prehardened Steel SKD61 (unquenched) 34~40HRC 1.060~1.250N/mm²	
Vc	80 ~ 120 m/min		60 ~ 100 m/min		40 ~ 80 m/min		30 ~ 60 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2	12.700	0,04 ~ 0,08	12.700	0,04 ~ 0,08	9.500	0,04 ~ 0,08	7.200	0,04 ~ 0,06
3	10.600	0,06 ~ 0,12	8.500	0,06 ~ 0,12	6.400	0,06 ~ 0,12	4.800	0,06 ~ 0,09
4	8.000	0,08 ~ 0,16	6.400	0,08 ~ 0,16	4.800	0,08 ~ 0,16	3.600	0,08 ~ 0,12
5	6.400	0,10 ~ 0,20	5.100	0,10 ~ 0,20	3.800	0,10 ~ 0,20	2.900	0,10 ~ 0,15
6	5.300	0,12 ~ 0,24	4.200	0,12 ~ 0,24	3.200	0,12 ~ 0,24	2.400	0,12 ~ 0,18

1. The indicated speeds and feeds are for drilling with water-soluble coolant or MQL.
2. Water-soluble high density coolant (less than 20 times dilution) is recommended.
3. When using non-water-soluble or water-soluble coolant (over 20 times dilution), reduce cutting speed by 30%.
4. These conditions are for drilling depth less than 8 times the drill diameter.
5. Equip the drill with a scratch- and dust-free collet and minimize drill deflection to less than 0.02mm.
6. Fasten the work material to reduce the possibility of work deformation, deflection of machined surface, or vibration.
7. A clogged oil hole can lead to a breakage. Make sure that a filter is attached to the oil feeder.
8. 1D - 2D step feeding may be required for drilling high hardened steels and mid-range (8D) work.
9. Depending on actual operation environment, high speed cutting parameters listed above may not be applicables

ADOX-10D/15D/20D/25D/30D

	Mild Steel - Low Carbon Steel SS400 - S10C ~150HB ~500 N/mm²		Carbon Steel S35C • S50C ~210HB ~710 N/mm²		Alloy Steel SCM • SCr • SNCM 16~28HRC 710~900 N/mm²		Alloy Steel - Prehardened Steel (C ≥0,3%) SCM440 28~34HRC 900~1,060N/mm²	
Vc	60 ~ 125 m/min		60 ~ 125 m/min		60 ~ 125 m/min		50 ~ 70 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2,5	8.900	0,05 ~ 0,1	8.900	0,05 ~ 0,1	8.900	0,05 ~ 0,1	7.600	0,05 ~ 0,08
3	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	6.300	0,08 ~ 0,11
4	6.400	0,08 ~ 0,16	6.400	0,08 ~ 0,16	6.400	0,08 ~ 0,16	4.700	0,1 ~ 0,15
5	5.800	0,10 ~ 0,20	5.800	0,10 ~ 0,20	5.800	0,10 ~ 0,20	3.800	0,12 ~ 0,18
6	4.800	0,12 ~ 0,24	4.800	0,12 ~ 0,24	4.800	0,12 ~ 0,24	3.100	0,14 ~ 0,2

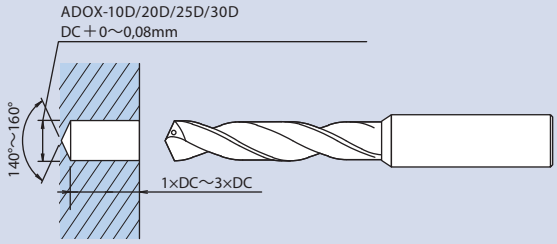
	Cast Iron FC250 ~350 N/mm²		Ductile Cast Iron FCD450 - FCD600 400 ~600 N/mm²		Stainless Steel SUS300/400 480 ~800 N/mm²		Special Alloy Steel - Hardened Steel - Prehardened Steel SKD61 (unquenched) 34~40HRC 1.060~1.250N/mm²	
Vc	60 ~ 125 m/min		50 ~ 80 m/min		40 ~ 80 m/min		30 ~ 50 m/min	
Ø	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)	S (min⁻¹)	F (mm/rev.)
2,5	8.900	0,05 ~ 0,1	8.900	0,05 ~ 0,1	6.400	0,05 ~ 0,1	5.000	0,05 ~ 0,08
3	7.500	0,06 ~ 0,12	7.500	0,06 ~ 0,12	5.300	0,06 ~ 0,12	4.200	0,08 ~ 0,11
4	6.400	0,08 ~ 0,16	5.600	0,08 ~ 0,16	4.400	0,08 ~ 0,16	3.100	0,1 ~ 0,15
5	5.800	0,10 ~ 0,20	4.500	0,10 ~ 0,20	3.800	0,10 ~ 0,20	2.500	0,12 ~ 0,18
6	4.800	0,12 ~ 0,24	3.800	0,12 ~ 0,24	3.200	0,12 ~ 0,24	2.100	0,14 ~ 0,2

1. The indicated speeds and feeds are for drilling with water-soluble coolant or MQL (mist drilling in stainless steels is not recommended).
2. Water-soluble high density coolant (20-30 times dilution) is recommended.
3. When using non-water-soluble coolant, set the cutting speed between 70-100% of the lowest limit.
4. Make a pilot hole before using in accordance with recommended operation.
5. A clogged oil hole can lead to a breakage. Make sure that a filter is attached to the oil feeder.
6. Peck drilling of 1D - 2D is strongly recommended.

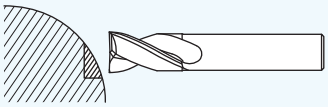
ADOX-10D/15D/20D/25D/30D

① Make a pilot hole with the ADOX-3D/5D or ADO-3D/5D.

For the pilot hole, select 0 - 0.08mm larger size drill than ADOX-10D/20D/25D/30D.



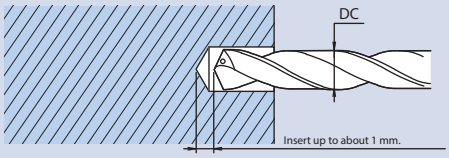
★ When working on a curved surface, use the ADF (carbide flat drill) to counterbore a flat surface before drilling a pilot hole.



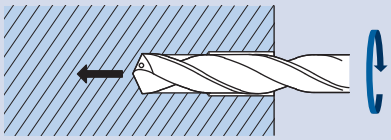
② (n)= 300~500min-1

(Vf)=300~500mm/min

Insert the long drill at a speed of (n) = 300 to 500 min^{-1} and a feed rate of (Vf) = 300 to 500 mm/min.



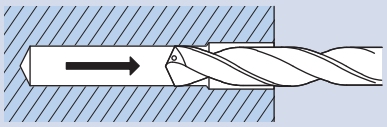
③ Increase the revolution to the designated speed and start drilling.



(f) =0.05～0.1mm/rev.
When drilling through holes, reduce the feed rate to (f) 0.05 to 0.1 mm/rev.

④ (n)=300 ～500min^{-1} • (Vf) =1,000 ～3.000mm/min

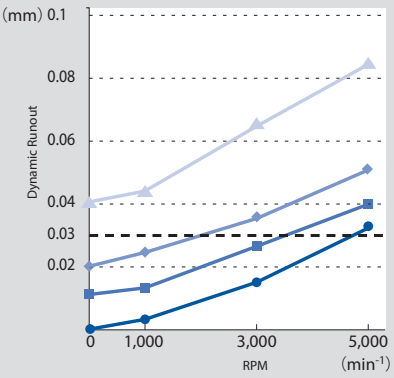
After drilling, reduce the speed to (n) = 300 to 500 min^{-1} and a feed rate of (Vf) = 1,000 to 3,000 mm/min and pull the drill out of the hole.



* Make sure to use internal coolant supply when drilling.

Key point for stable drilling with long drills

The runout of a gripped cutting tool increases with the speed. The graph on the right indicates this increase. To ensure a higher level of work stability, OSG recommends "making +0 - 0.08mm pilot holes" and "inserting long drills stopped or at low speed." The reason for this is made evident in the graph on the right: increasing the speed increases the dynamic runout, posing a higher risk of the drill not fitting properly in the pilot hole. Therefore, this is effective not only for inhibiting static runout, but is also the recommended drilling method for long drills.



Static Runout / RPM (min-1)	0mm	0.01mm	0.02mm	0.04mm
1,000	0.003	0.013	0.024	0.046
3,000	0.014	0.026	0.036	0.066
5,000	0.033	0.04	0.049	0.087

Tool：φ6×30D

shaping your dreams

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