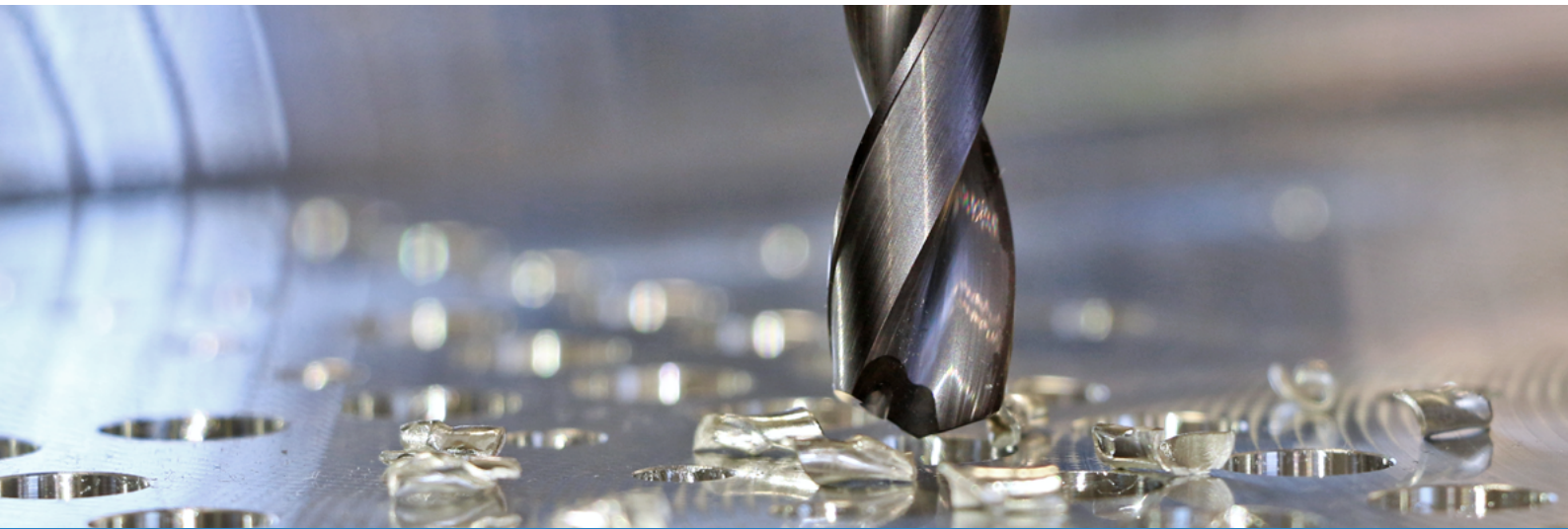


# QDA



Cost effective drill for higher speeds and better surfaces

Highly versatile drill series applicable to a wide range of workpiece materials

Three styles available starting from diameter  $\varnothing$  1 mm with coolant supply

Good chip control and long tool life



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New versatile drill for higher productivity

# QDA

The QDA drill offers good chip evacuation and the rigid tool design improves tool life significantly.

Styles available Tool range (Z2)

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## **Type N** Normal type

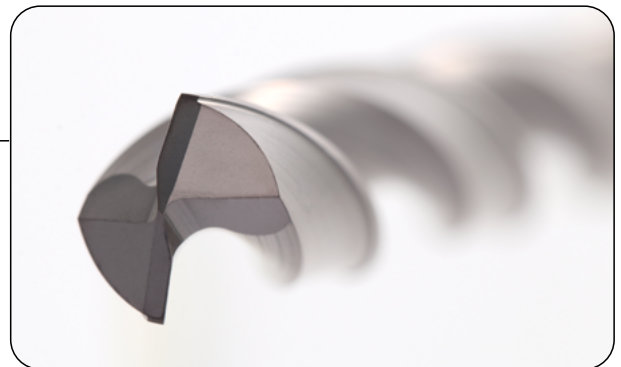
General purpose design without coolant holes.  
Economical style for machining with external coolant.

Diameter  
range

3xD

5xD

Ø3.0 - Ø20.0 mm



## **Type C** With Coolant hole

Coolant-through design provides higher efficiency and  
stable machining with stainless steels, etc.

Diameter  
range

3xD

5xD

8xD

Ø3.0 - Ø20.0 mm



## **Micro** Internal coolant

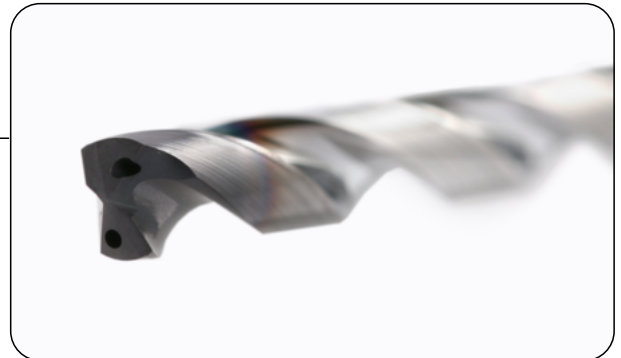
Coolant-through design provides extended tool life and  
stable machining in various materials.

Diameter  
range

5xD

8xD

Ø1.0 - Ø3.0 mm

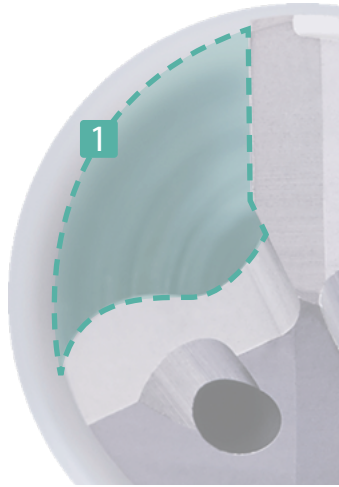


# High feed technology

## Coated solid carbide drill

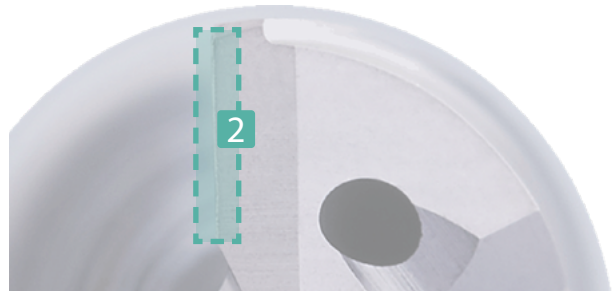
### Wider chip pocket

The wider area is offering more space so that the chip pocket enhances a better and smoother chip evacuation.



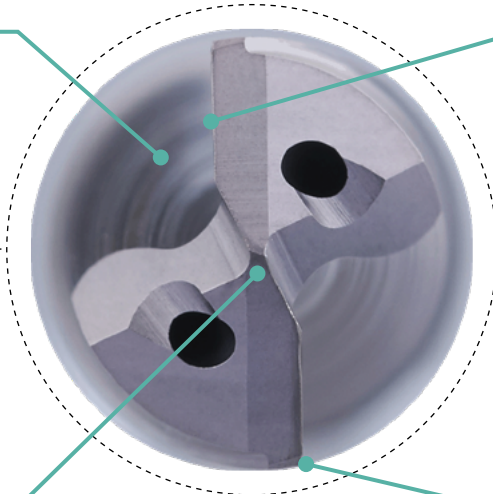
### Straight edge profile

Creating shorter chips and offering a reinforced cutting edge for longer tool life while machining on high level.



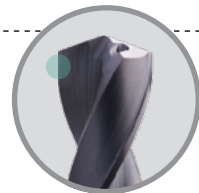
**1** Wider chip pocket  
Smoother chip evacuation

**2** Straight edge profile  
Reinforced cutting edge



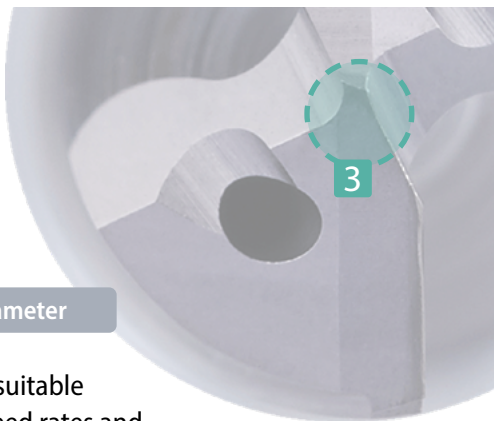
**3** Bigger K-value  
Higher feed rate

**4** Corner edge chamfer  
Better surface finishing



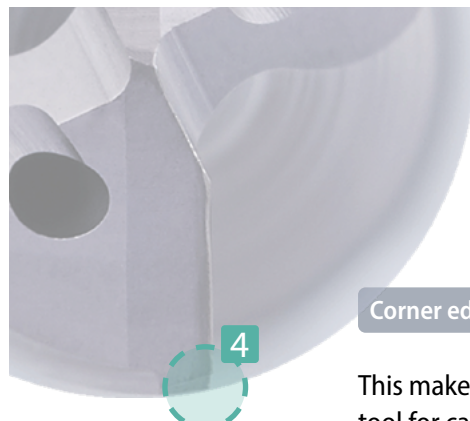
### Core diameter

The QDA is suitable for higher feed rates and the bigger core diameter enhances tool durability drastically.



### Corner edge chamfer

This makes it an ideal tool for cast iron and offering better surface finishing in general.



# Materials

Versatility

Suitable for 5 material groups

Chip condition

Good chip forming

P

M

K

N

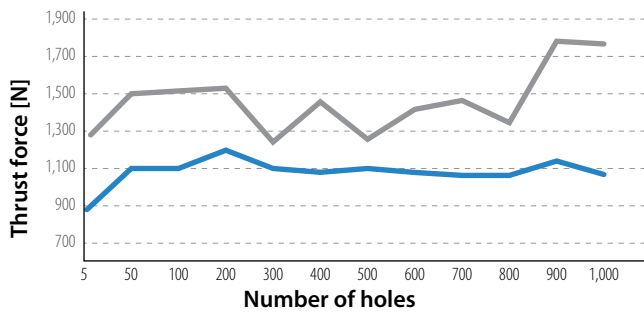
S



Cutting conditions: workpiece: stainless steel 316L, VC = 60 mm, f = 0.16 mm/rev.

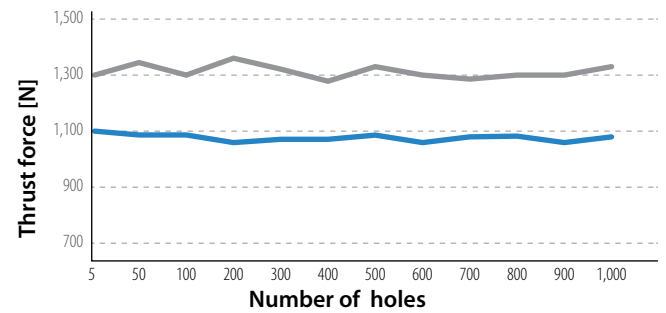
## Thrust force (Internal evaluation) (Fz)

St.52



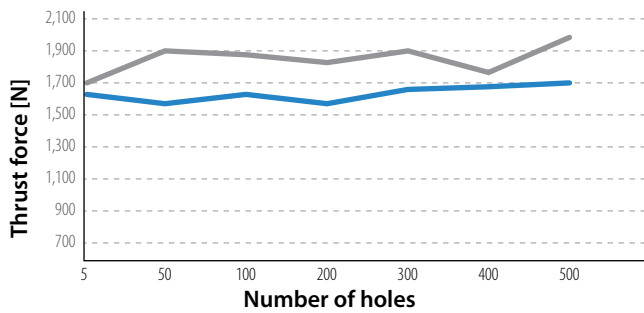
- From average value competitor is **35% higher**
- Lower and more stable thrust force from QDA

GGG40

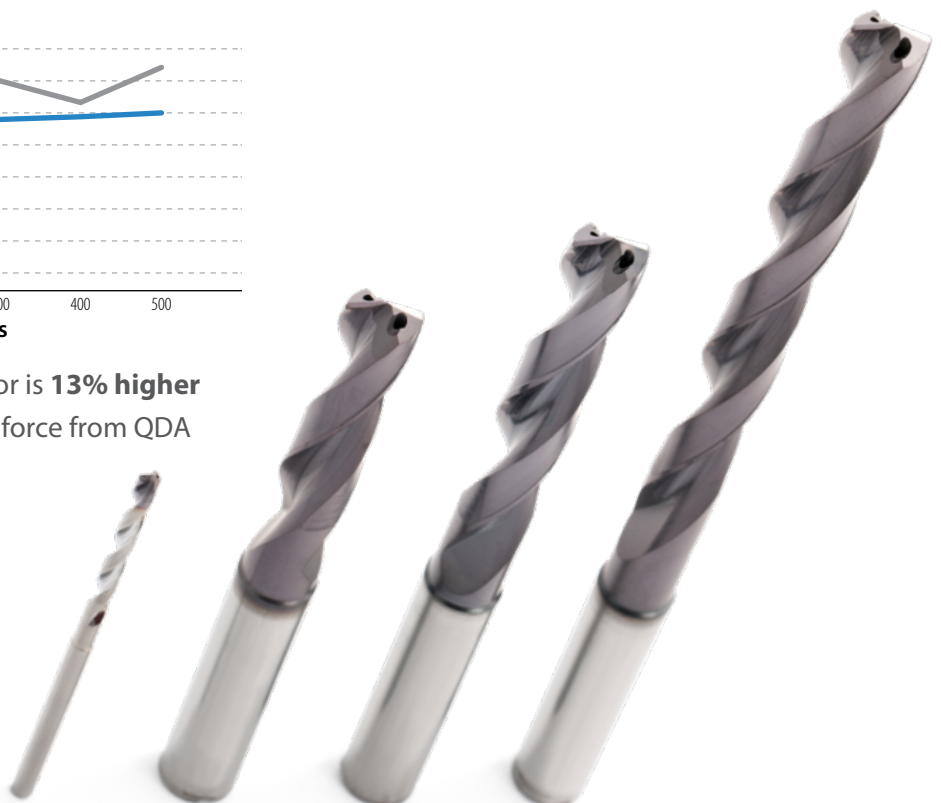


- From average value competitor is **23% higher**
- Lower thrust force from QDA

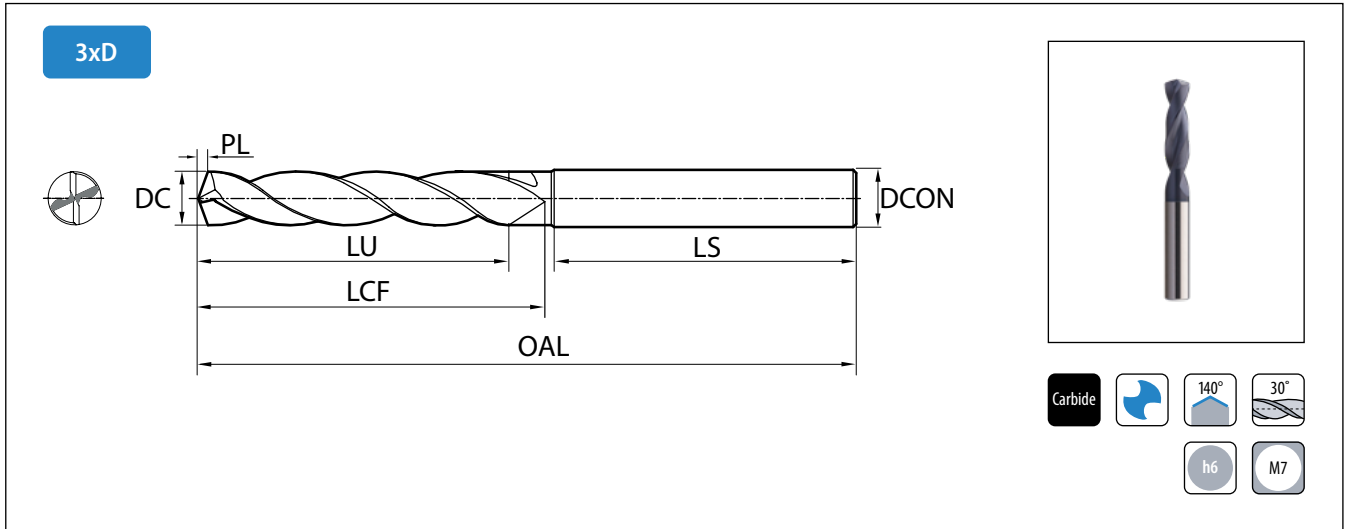
AISI 304



- From average value competitor is **13% higher**
- Lower and more stable thrust force from QDA



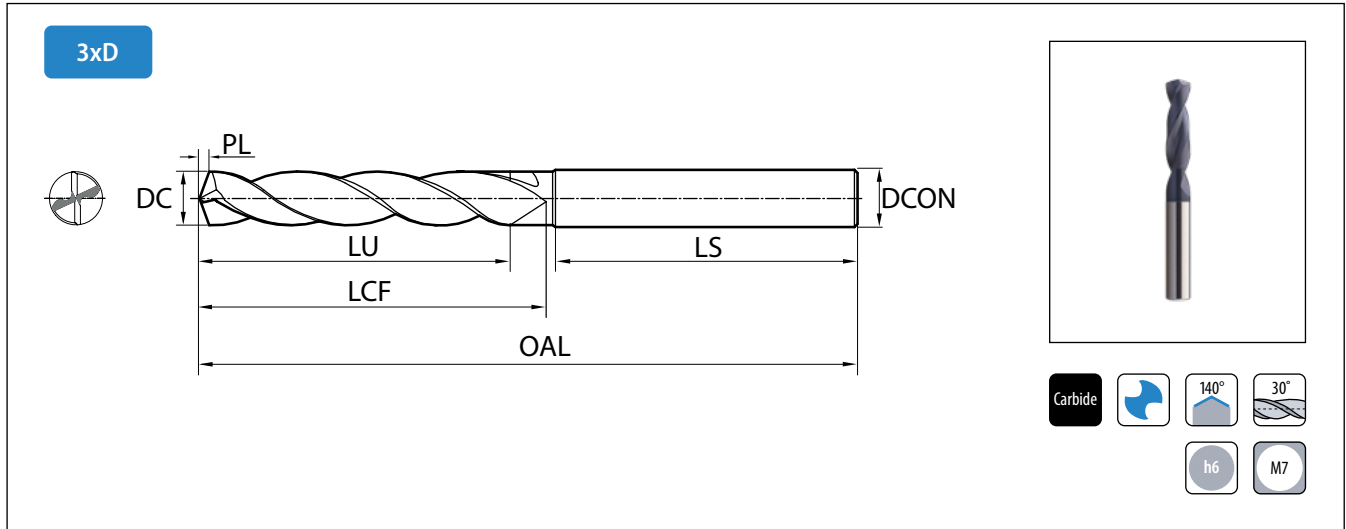
# Type N No coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X03S060N	●	3	6	62	14	20	36	0.6
QDA0310X03S060N	●	3.1	6	62	14	20	36	0.6
QDA0320X03S060N	●	3.2	6	62	14	20	36	0.6
QDA0330X03S060N	●	3.3	6	62	14	20	36	0.7
QDA0340X03S060N	●	3.4	6	62	14	20	36	0.7
QDA0350X03S060N	●	3.5	6	62	14	20	36	0.7
QDA0360X03S060N	●	3.6	6	62	14	20	36	0.7
QDA0370X03S060N	●	3.7	6	62	14	20	36	0.7
QDA0380X03S060N	●	3.8	6	66	17	24	36	0.8
QDA0390X03S060N	●	3.9	6	66	17	24	36	0.8
QDA0400X03S060N	●	4	6	66	17	24	36	0.8
QDA0410X03S060N	●	4.1	6	66	17	24	36	0.8
QDA0420X03S060N	●	4.2	6	66	17	24	36	0.8
QDA0430X03S060N	●	4.3	6	66	17	24	36	0.9
QDA0440X03S060N	●	4.4	6	66	17	24	36	0.9
QDA0450X03S060N	●	4.5	6	66	17	24	36	0.9
QDA0460X03S060N	●	4.6	6	66	17	24	36	0.9
QDA0470X03S060N	●	4.7	6	66	17	24	36	0.9
QDA0480X03S060N	●	4.8	6	66	20	28	36	1.0
QDA0490X03S060N	●	4.9	6	66	20	28	36	1.0
QDA0500X03S060N	●	5	6	66	20	28	36	1.0
QDA0510X03S060N	●	5.1	6	66	20	28	36	1.0
QDA0520X03S060N	●	5.2	6	66	20	28	36	1.0
QDA0530X03S060N	●	5.3	6	66	20	28	36	1.0
QDA0540X03S060N	●	5.4	6	66	20	28	36	1.1
QDA0550X03S060N	●	5.5	6	66	20	28	36	1.1
QDA0560X03S060N	●	5.6	6	66	20	28	36	1.1
QDA0570X03S060N	●	5.7	6	66	20	28	36	1.1

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0580X03S060N	●	5.8	6	66	20	28	36	1.1
QDA0590X03S060N	●	5.9	6	66	20	28	36	1.2
QDA0600X03S060N	●	6	6	66	20	28	36	1.2
QDA0610X03S080N	●	6.1	8	79	24	34	36	1.2
QDA0620X03S080N	●	6.2	8	79	24	34	36	1.2
QDA0630X03S080N	●	6.3	8	79	24	34	36	1.2
QDA0640X03S080N	●	6.4	8	79	24	34	36	1.3
QDA0650X03S080N	●	6.5	8	79	24	34	36	1.3
QDA0660X03S080N	●	6.6	8	79	24	34	36	1.3
QDA0670X03S080N	●	6.7	8	79	24	34	36	1.3
QDA0680X03S080N	●	6.8	8	79	24	34	36	1.3
QDA0690X03S080N	●	6.9	8	79	24	34	36	1.4
QDA0700X03S080N	●	7	8	79	24	34	36	1.4
QDA0710X03S080N	●	7.1	8	79	29	41	36	1.4
QDA0720X03S080N	●	7.2	8	79	29	41	36	1.4
QDA0730X03S080N	●	7.3	8	79	29	41	36	1.4
QDA0740X03S080N	●	7.4	8	79	29	41	36	1.5
QDA0750X03S080N	●	7.5	8	79	29	41	36	1.5
QDA0760X03S080N	●	7.6	8	79	29	41	36	1.5
QDA0770X03S080N	●	7.7	8	79	29	41	36	1.5
QDA0780X03S080N	●	7.8	8	79	29	41	36	1.5
QDA0790X03S080N	●	7.9	8	79	29	41	36	1.6
QDA0800X03S080N	●	8	8	79	29	41	36	1.6
QDA0810X03S100N	●	8.1	10	89	35	47	40	1.6
QDA0820X03S100N	●	8.2	10	89	35	47	40	1.6
QDA0830X03S100N	●	8.3	10	89	35	47	40	1.6
QDA0840X03S100N	●	8.4	10	89	35	47	40	1.7
QDA0850X03S100N	●	8.5	10	89	35	47	40	1.7

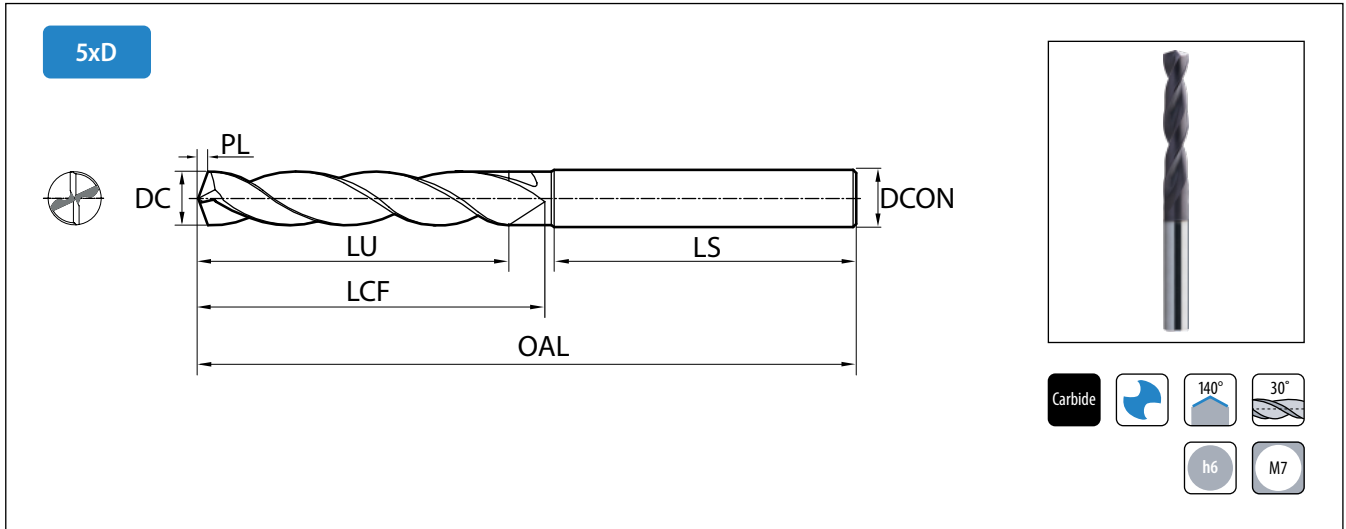
# Type N No coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X03S100N	●	8.6	10	89	35	47	40	1.7
QDA0870X03S100N	●	8.7	10	89	35	47	40	1.7
QDA0880X03S100N	●	8.8	10	89	35	47	40	1.7
QDA0890X03S100N	●	8.9	10	89	35	47	40	1.8
QDA0900X03S100N	●	9	10	89	35	47	40	1.8
QDA0910X03S100N	●	9.1	10	89	35	47	40	1.8
QDA0920X03S100N	●	9.2	10	89	35	47	40	1.8
QDA0930X03S100N	●	9.3	10	89	35	47	40	1.8
QDA0940X03S100N	●	9.4	10	89	35	47	40	1.9
QDA0950X03S100N	●	9.5	10	89	35	47	40	1.9
QDA0960X03S100N	●	9.6	10	89	35	47	40	1.9
QDA0970X03S100N	●	9.7	10	89	35	47	40	1.9
QDA0980X03S100N	●	9.8	10	89	35	47	40	1.9
QDA0990X03S100N	●	9.9	10	89	35	47	40	2.0
QDA1000X03S100N	●	10	10	89	35	47	40	2.0
QDA1010X03S120N	●	10.1	12	102	40	55	45	2.0
QDA1020X03S120N	●	10.2	12	102	40	55	45	2.0
QDA1030X03S120N	●	10.3	12	102	40	55	45	2.0
QDA1040X03S120N	●	10.4	12	102	40	55	45	2.1
QDA1050X03S120N	●	10.5	12	102	40	55	45	2.1
QDA1060X03S120N	●	10.6	12	102	40	55	45	2.1
QDA1070X03S120N	●	10.7	12	102	40	55	45	2.1
QDA1080X03S120N	●	10.8	12	102	40	55	45	2.1
QDA1090X03S120N	●	10.9	12	102	40	55	45	2.2
QDA1100X03S120N	●	11	12	102	40	55	45	2.2
QDA1110X03S120N	●	11.1	12	102	40	55	45	2.2
QDA1120X03S120N	●	11.2	12	102	40	55	45	2.2
QDA1130X03S120N	●	11.3	12	102	40	55	45	2.2

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA1140X03S120N	●	11.4	12	102	40	55	45	2.3
QDA1150X03S120N	●	11.5	12	102	40	55	45	2.3
QDA1160X03S120N	●	11.6	12	102	40	55	45	2.3
QDA1170X03S120N	●	11.7	12	115	40	55	45	2.3
QDA1180X03S120N	●	11.8	12	115	40	55	45	2.3
QDA1190X03S120N	●	11.9	12	115	40	55	45	2.4
QDA1200X03S120N	●	12	12	115	40	55	45	2.4
QDA1250X03S140N	●	12.5	14	107	43	60	45	2.5
QDA1270X03S140N	●	12.7	14	107	43	60	45	2.5
QDA1300X03S140N	●	13	14	107	43	60	45	2.6
QDA1350X03S140N	●	13.5	14	107	43	60	45	2.7
QDA1370X03S140N	●	13.7	14	107	43	60	45	2.7
QDA1400X03S140N	●	14	14	107	43	60	45	2.8
QDA1450X03S160N	●	14.5	16	115	45	65	48	2.9
QDA1500X03S160N	●	15	16	115	45	65	48	3.0
QDA1550X03S160N	●	15.5	16	115	45	65	48	3.1
QDA1600X03S160N	●	16	16	115	45	65	48	3.2
QDA1650X03S180N	●	16.5	18	123	51	73	48	3.3
QDA1700X03S180N	●	17	18	123	51	73	48	3.4
QDA1750X03S180N	●	17.5	18	123	51	73	48	3.5
QDA1800X03S180N	●	18	18	123	51	73	48	3.6
QDA1850X03S200N	●	18.5	20	131	55	79	50	3.7
QDA1900X03S200N	●	19	20	131	55	79	50	3.8
QDA1950X03S200N	●	19.5	20	131	55	79	50	3.9
QDA2000X03S200N	●	20	20	131	55	79	50	4.0

# Type N No coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X05S060N	●	3	6	66	23	28	36	0.6
QDA0310X05S060N	●	3.1	6	66	23	28	36	0.6
QDA0320X05S060N	●	3.2	6	66	23	28	36	0.6
QDA0330X05S060N	●	3.3	6	66	23	28	36	0.7
QDA0340X05S060N	●	3.4	6	66	23	28	36	0.7
QDA0350X05S060N	●	3.5	6	66	23	28	36	0.7
QDA0360X05S060N	●	3.6	6	66	23	28	36	0.7
QDA0370X05S060N	●	3.7	6	66	23	28	36	0.7
QDA0380X05S060N	●	3.8	6	74	29	36	36	0.8
QDA0390X05S060N	●	3.9	6	74	29	36	36	0.8
QDA0400X05S060N	●	4	6	74	29	36	36	0.8
QDA0410X05S060N	●	4.1	6	74	29	36	36	0.8
QDA0420X05S060N	●	4.2	6	74	29	36	36	0.8
QDA0430X05S060N	●	4.3	6	74	29	36	36	0.9
QDA0440X05S060N	●	4.4	6	74	29	36	36	0.9
QDA0450X05S060N	●	4.5	6	74	29	36	36	0.9
QDA0460X05S060N	●	4.6	6	74	29	36	36	0.9
QDA0470X05S060N	●	4.7	6	74	29	36	36	0.9
QDA0480X05S060N	●	4.8	6	82	35	44	36	1.0
QDA0490X05S060N	●	4.9	6	82	35	44	36	1.0
QDA0500X05S060N	●	5	6	82	35	44	36	1.0
QDA0510X05S060N	●	5.1	6	82	35	44	36	1.0
QDA0520X05S060N	●	5.2	6	82	35	44	36	1.0
QDA0530X05S060N	●	5.3	6	82	35	44	36	1.0
QDA0540X05S060N	●	5.4	6	82	35	44	36	1.1
QDA0550X05S060N	●	5.5	6	82	35	44	36	1.1
QDA0560X05S060N	●	5.6	6	82	35	44	36	1.1
QDA0570X05S060N	●	5.7	6	82	35	44	36	1.1

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0580X05S060N	●	5.8	6	82	35	44	36	1.1
QDA0590X05S060N	●	5.9	6	82	35	44	36	1.2
QDA0600X05S060N	●	6	6	82	35	44	36	1.2
QDA0610X05S080N	●	6.1	8	91	43	53	36	1.2
QDA0620X05S080N	●	6.2	8	91	43	53	36	1.2
QDA0630X05S080N	●	6.3	8	91	43	53	36	1.2
QDA0640X05S080N	●	6.4	8	91	43	53	36	1.3
QDA0650X05S080N	●	6.5	8	91	43	53	36	1.3
QDA0660X05S080N	●	6.6	8	91	43	53	36	1.3
QDA0670X05S080N	●	6.7	8	91	43	53	36	1.3
QDA0680X05S080N	●	6.8	8	91	43	53	36	1.3
QDA0690X05S080N	●	6.9	8	91	43	53	36	1.4
QDA0700X05S080N	●	7	8	91	43	53	36	1.4
QDA0710X05S080N	●	7.1	8	91	43	53	36	1.4
QDA0720X05S080N	●	7.2	8	91	43	53	36	1.4
QDA0730X05S080N	●	7.3	8	91	43	53	36	1.4
QDA0740X05S080N	●	7.4	8	91	43	53	36	1.5
QDA0750X05S080N	●	7.5	8	91	43	53	36	1.5
QDA0760X05S080N	●	7.6	8	91	43	53	36	1.5
QDA0770X05S080N	●	7.7	8	91	43	53	36	1.5
QDA0780X05S080N	●	7.8	8	91	43	53	36	1.5
QDA0790X05S080N	●	7.9	8	91	43	53	36	1.6
QDA0800X05S080N	●	8	8	91	43	53	36	1.6
QDA0810X05S100N	●	8.1	10	91	43	53	36	1.6
QDA0820X05S100N	●	8.2	10	103	49	61	36	1.6
QDA0830X05S100N	●	8.3	10	103	49	61	36	1.6
QDA0840X05S100N	●	8.4	10	103	49	61	36	1.7
QDA0850X05S100N	●	8.5	10	103	49	61	36	1.7

# Type N No coolant holes

5xD

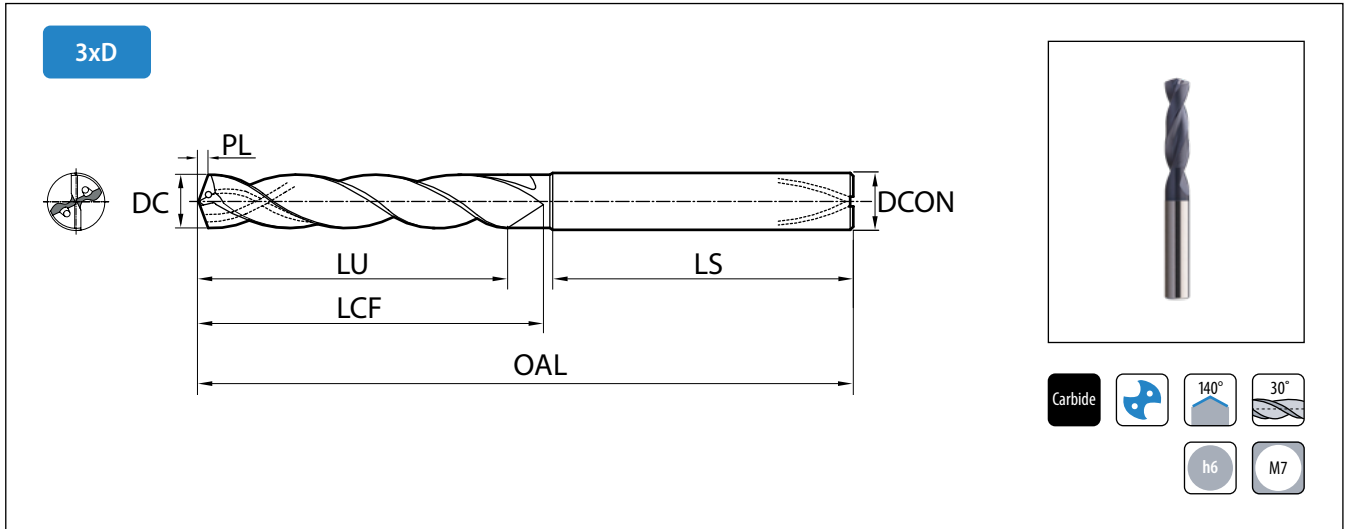
Carbide

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X05S100N	●	8.6	10	103	49	61	36	1.7
QDA0870X05S100N	●	8.7	10	103	49	61	36	1.7
QDA0880X05S100N	●	8.8	10	103	49	61	36	1.7
QDA0890X05S100N	●	8.9	10	103	49	61	36	1.8
QDA0900X05S100N	●	9	10	103	49	61	40	1.8
QDA0910X05S100N	●	9.1	10	103	49	61	40	1.8
QDA0920X05S100N	●	9.2	10	103	49	61	40	1.8
QDA0930X05S100N	●	9.3	10	103	49	61	40	1.8
QDA0940X05S100N	●	9.4	10	103	49	61	40	1.9
QDA0950X05S100N	●	9.5	10	103	49	61	40	1.9
QDA0960X05S100N	●	9.6	10	103	49	61	40	1.9
QDA0970X05S100N	●	9.7	10	103	49	61	40	1.9
QDA0980X05S100N	●	9.8	10	103	49	61	40	1.9
QDA0990X05S100N	●	9.9	10	103	49	61	40	2.0
QDA1000X05S100N	●	10	10	103	49	61	40	2.0
QDA1020X05S120N	●	10.2	12	118	56	71	45	2.0
QDA1050X05S120N	●	10.5	12	118	56	71	45	2.1
QDA1080X05S120N	●	10.8	12	118	56	71	45	2.1
QDA1100X05S120N	●	11	12	118	56	71	45	2.2
QDA1120X05S120N	●	11.2	12	118	56	71	45	2.2
QDA1130X05S120N	●	11.3	12	118	56	71	45	2.2
QDA1150X05S120N	●	11.5	12	118	56	71	45	2.3
QDA1180X05S120N	●	11.8	12	118	56	71	45	2.3
QDA1200X05S120N	●	12	12	118	56	71	45	2.4
QDA1220X05S140N	●	12.2	14	124	60	77	45	2.4
QDA1250X05S140N	●	12.5	14	124	60	77	45	2.5
QDA1270X05S140N	●	12.7	14	124	60	77	45	2.5
QDA1280X05S140N	●	12.8	14	124	60	77	45	2.5

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA1300X05S140N	●	13	14	124	60	77	45	2.6
QDA1330X05S140N	●	13.3	14	124	60	77	45	2.6
QDA1350X05S140N	●	13.5	14	124	60	77	45	2.7
QDA1370X05S140N	●	13.7	14	124	60	77	45	2.7
QDA1380X05S140N	●	13.8	14	124	60	77	45	2.7
QDA1400X05S140N	●	14	14	124	60	77	45	2.7
QDA1450X05S160N	●	14.5	16	133	63	83	48	2.9
QDA1500X05S160N	●	15	16	133	63	83	48	3.0
QDA1530X05S160N	●	15.3	16	133	63	83	48	3.0
QDA1550X05S160N	●	15.5	16	133	63	83	48	3.1
QDA1580X05S160N	●	15.8	16	133	63	83	48	3.1
QDA1600X05S160N	●	16	16	133	63	83	48	3.2
QDA1650X05S180N	●	16.5	18	143	71	93	48	3.3
QDA1700X05S180N	●	17	18	143	71	93	48	3.4
QDA1750X05S180N	●	17.5	18	143	71	93	48	3.5
QDA1800X05S180N	●	18	18	143	71	93	48	3.6
QDA1850X05S200N	●	18.5	20	153	77	101	50	3.7
QDA1900X05S200N	●	19	20	153	77	101	50	3.8
QDA1950X05S200N	●	19.5	20	153	77	101	50	3.9
QDA2000X05S200N	●	20	20	153	77	101	50	4.0



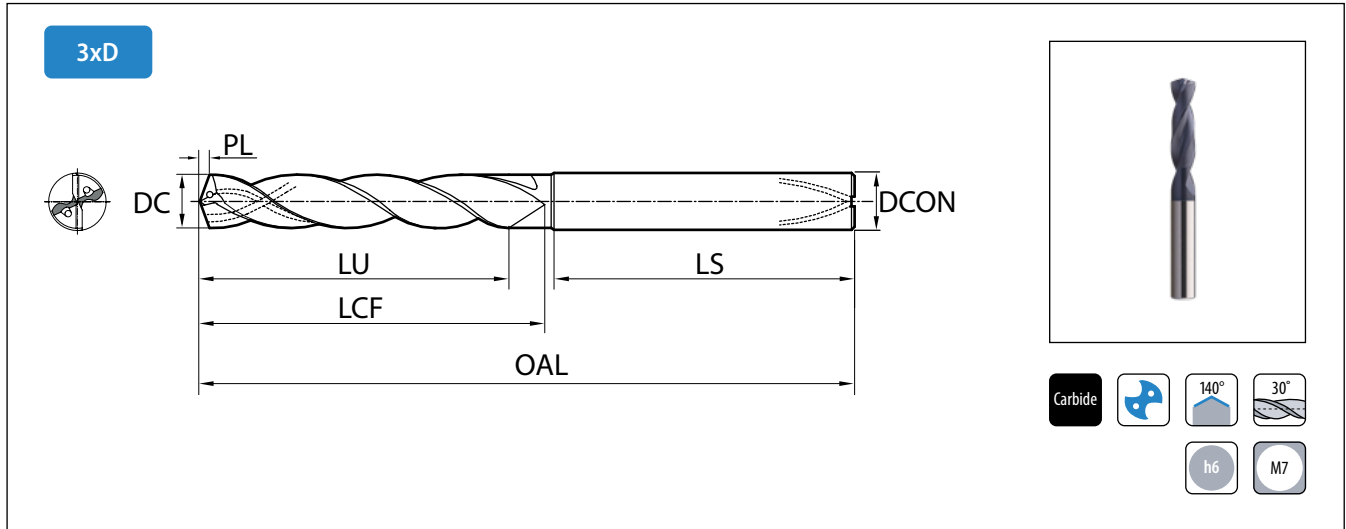
## Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X03S060C	●	3	6	62	14	20	36	0.6
QDA0310X03S060C	●	3.1	6	62	14	20	36	0.6
QDA0320X03S060C	●	3.2	6	62	14	20	36	0.6
QDA0330X03S060C	●	3.3	6	62	14	20	36	0.7
QDA0340X03S060C	●	3.4	6	62	14	20	36	0.7
QDA0350X03S060C	●	3.5	6	62	14	20	36	0.7
QDA0360X03S060C	●	3.6	6	62	14	20	36	0.7
QDA0370X03S060C	●	3.7	6	62	14	20	36	0.7
QDA0380X03S060C	●	3.8	6	66	17	24	36	0.8
QDA0390X03S060C	●	3.9	6	66	17	24	36	0.8
QDA0400X03S060C	●	4	6	66	17	24	36	0.8
QDA0410X03S060C	●	4.1	6	66	17	24	36	0.8
QDA0420X03S060C	●	4.2	6	66	17	24	36	0.8
QDA0430X03S060C	●	4.3	6	66	17	24	36	0.9
QDA0440X03S060C	●	4.4	6	66	17	24	36	0.9
QDA0450X03S060C	●	4.5	6	66	17	24	36	0.9
QDA0460X03S060C	●	4.6	6	6	17	24	36	0.9
QDA0470X03S060C	●	4.7	6	66	17	24	36	0.9
QDA0480X03S060C	●	4.8	6	66	20	28	36	1.0
QDA0490X03S060C	●	4.9	6	66	20	28	36	1.0
QDA0500X03S060C	●	5	6	66	20	28	36	1.0
QDA0510X03S060C	●	5.1	6	66	20	28	36	1.0
QDA0520X03S060C	●	5.2	6	66	20	28	36	1.0
QDA0530X03S060C	●	5.3	6	66	20	28	36	1.0
QDA0540X03S060C	●	5.4	6	66	20	28	36	1.1
QDA0550X03S060C	●	5.5	6	66	20	28	36	1.1
QDA0560X03S060C	●	5.6	6	66	20	28	36	1.1
QDA0570X03S060C	●	5.7	6	66	20	28	36	1.1

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0580X03S060C	●	5.8	6	66	20	28	36	1.1
QDA0590X03S060C	●	5.9	6	66	20	28	36	1.2
QDA0600X03S060C	●	6	6	66	20	28	36	1.2
QDA0610X03S080C	●	6.1	8	79	24	34	36	1.2
QDA0620X03S080C	●	6.2	8	79	24	34	36	1.2
QDA0630X03S080C	●	6.3	8	79	24	34	36	1.2
QDA0640X03S080C	●	6.4	8	79	24	34	36	1.3
QDA0650X03S080C	●	6.5	8	79	24	34	36	1.3
QDA0660X03S080C	●	6.6	8	79	24	34	36	1.3
QDA0670X03S080C	●	6.7	8	79	24	34	36	1.3
QDA0680X03S080C	●	6.8	8	79	24	34	36	1.3
QDA0690X03S080C	●	6.9	8	79	24	34	36	1.4
QDA0700X03S080C	●	7	8	79	24	34	36	1.4
QDA0710X03S080C	●	7.1	8	79	29	41	36	1.4
QDA0720X03S080C	●	7.2	8	79	29	41	36	1.4
QDA0730X03S080C	●	7.3	8	79	29	41	36	1.4
QDA0740X03S080C	●	7.4	8	79	29	41	36	1.5
QDA0750X03S080C	●	7.5	8	79	29	41	36	1.5
QDA0760X03S080C	●	7.6	8	79	29	41	36	1.5
QDA0770X03S080C	●	7.7	8	79	29	41	36	1.5
QDA0780X03S080C	●	7.8	8	79	29	41	36	1.5
QDA0790X03S080C	●	7.9	8	79	29	41	36	1.6
QDA0800X03S080C	●	8	8	79	29	41	36	1.6
QDA0810X03S100C	●	8.1	10	89	35	47	40	1.6
QDA0820X03S100C	●	8.2	10	89	35	47	40	1.6
QDA0830X03S100C	●	8.3	10	89	35	47	40	1.6
QDA0840X03S100C	●	8.4	10	89	35	47	40	1.7
QDA0850X03S100C	●	8.5	10	89	35	47	40	1.7

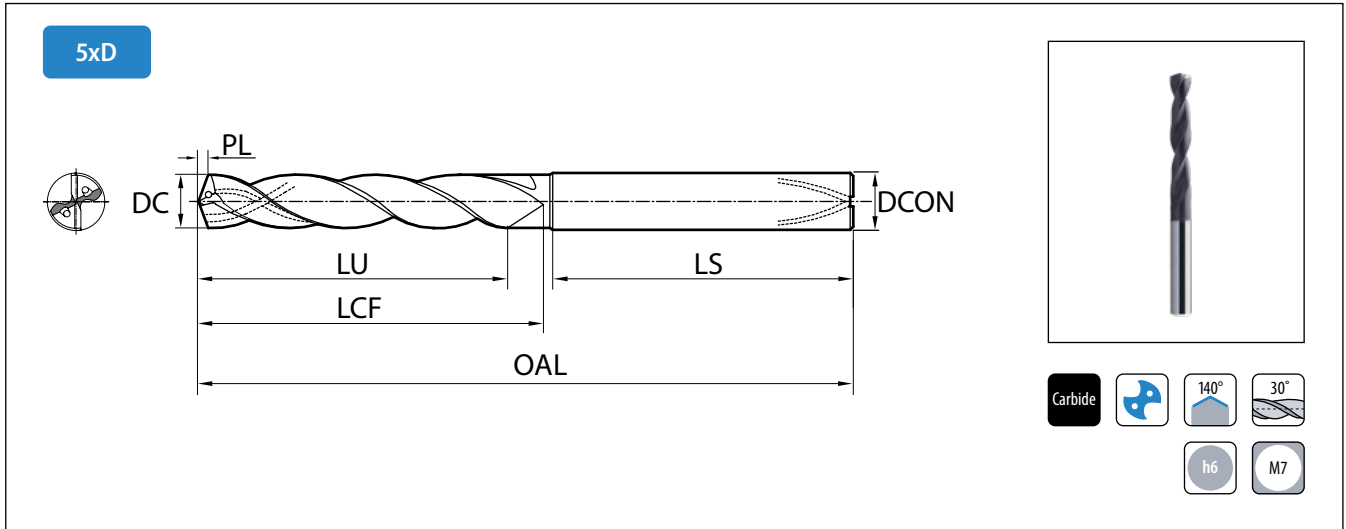
# Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X03S100C	●	8.6	10	89	35	47	40	1.7
QDA0870X03S100C	●	8.7	10	89	35	47	40	1.7
QDA0880X03S100C	●	8.8	10	89	35	47	40	1.7
QDA0890X03S100C	●	8.9	10	89	35	47	40	1.8
QDA0900X03S100C	●	9	10	89	35	47	40	1.8
QDA0910X03S100C	●	9.1	10	89	35	47	40	1.8
QDA0920X03S100C	●	9.2	10	89	35	47	40	1.8
QDA0930X03S100C	●	9.3	10	89	35	47	40	1.8
QDA0940X03S100C	●	9.4	10	89	35	47	40	1.9
QDA0950X03S100C	●	9.5	10	89	35	47	40	1.9
QDA0960X03S100C	●	9.6	10	89	35	47	40	1.9
QDA0970X03S100C	●	9.7	10	89	35	47	40	1.9
QDA0980X03S100C	●	9.8	10	89	35	47	40	1.9
QDA0990X03S100C	●	9.9	10	89	35	47	40	2.0
QDA1000X03S100C	●	10	10	89	35	47	40	2.0
QDA1020X03S120C	●	10.2	12	102	40	55	45	2.0
QDA1050X03S120C	●	10.5	12	102	40	55	45	2.1
QDA1080X03S120C	●	10.8	12	102	40	55	45	2.1
QDA1100X03S120C	●	11	12	102	40	55	45	2.2
QDA1120X03S120C	●	11.2	12	102	40	55	45	2.2
QDA1130X03S120C	●	11.3	12	102	40	55	45	2.2
QDA1150X03S120C	●	11.5	12	102	40	55	45	2.3
QDA1180X03S120C	●	11.8	12	102	40	55	45	2.3
QDA1200X03S120C	●	12	12	102	40	55	45	2.4
QDA1220X03S140C	●	12.2	14	107	43	60	45	2.4
QDA1250X03S140C	●	12.5	14	107	43	60	45	2.5
QDA1270X03S140C	●	12.7	14	107	43	60	45	2.5
QDA1280X03S140C	●	12.8	14	107	43	60	45	2.5

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA1300X03S140C	●	13	14	107	43	60	45	2.6
QDA1330X03S140C	●	13.3	14	107	43	60	45	2.6
QDA1350X03S140C	●	13.5	14	107	43	60	45	2.7
QDA1370X03S140C	●	13.7	14	107	43	60	45	2.7
QDA1380X03S140C	●	13.8	14	107	43	60	45	2.5
QDA1400X03S140C	●	14	14	107	43	60	45	2.8
QDA1450X03S160C	●	14.5	16	115	45	65	48	2.9
QDA1500X03S160C	●	15	16	115	45	65	48	3.0
QDA1530X03S160C	●	15.3	16	115	45	65	48	3.0
QDA1550X03S160C	●	15.5	16	115	45	65	48	3.1
QDA1580X03S160C	●	15.8	16	115	45	65	48	3.1
QDA1600X03S160C	●	16	16	115	45	65	48	3.2
QDA1650X03S180C	●	16.5	18	123	51	73	48	3.3
QDA1700X03S180C	●	17	16	123	51	73	48	3.4
QDA1750X03S180C	●	17.5	18	123	51	73	48	3.5
QDA1800X03S180C	●	18	18	123	51	73	48	3.6
QDA1850X03S200C	●	18.5	20	131	55	79	50	3.7
QDA1900X03S200C	●	19	20	131	55	79	50	3.8
QDA1950X03S200C	●	19.5	20	131	55	79	50	3.9
QDA2000X03S200C	●	20	20	131	55	79	50	4.0

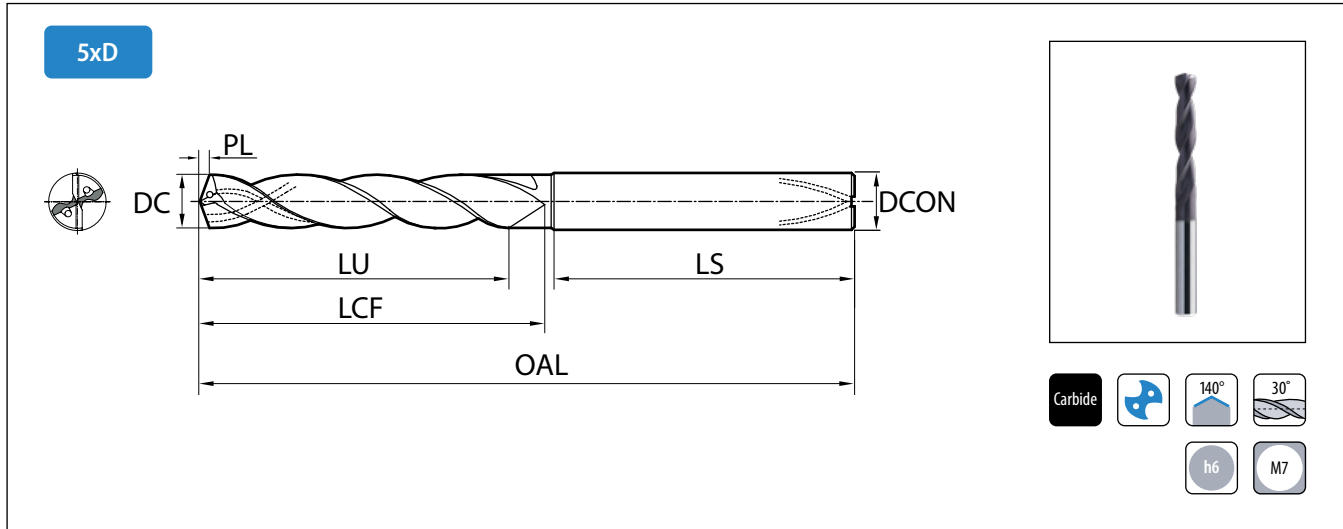
# Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X05S060C	●	3	6	66	23	28	36	0.6
QDA0310X05S060C	●	3.1	6	66	23	28	36	0.6
QDA0320X05S060C	●	3.2	6	66	23	28	36	0.6
QDA0330X05S060C	●	3.3	6	66	23	8	6	0.7
QDA0340X05S060C	●	3.4	6	66	23	28	36	0.7
QDA0350X05S060C	●	3.5	6	66	23	28	36	0.7
QDA0360X05S060C	●	3.6	6	66	23	28	36	0.7
QDA0370X05S060C	●	3.7	6	66	23	28	36	0.7
QDA0380X05S060C	●	3.8	6	74	29	36	36	0.8
QDA0390X05S060C	●	3.9	6	74	29	36	36	0.8
QDA0400X05S060C	●	4	6	74	29	36	36	0.8
QDA0410X05S060C	●	4.1	6	74	29	36	36	0.8
QDA0420X05S060C	●	4.2	6	74	29	36	36	0.8
QDA0430X05S060C	●	4.3	6	74	29	36	36	0.9
QDA0440X05S060C	●	4.4	6	74	29	36	36	0.9
QDA0450X05S060C	●	4.5	6	74	29	36	36	0.9
QDA0460X05S060C	●	4.6	6	74	29	36	36	0.9
QDA0470X05S060C	●	4.7	6	74	29	36	36	0.9
QDA0480X05S060C	●	4.8	6	82	35	44	36	1.0
QDA0490X05S060C	●	4.9	6	82	35	44	36	1.0
QDA0500X05S060C	●	5	6	82	35	44	36	1.0
QDA0510X05S060C	●	5.1	6	82	35	44	36	1.0
QDA0520X05S060C	●	5.2	6	82	35	44	36	1.0
QDA0530X05S060C	●	5.3	6	82	35	44	36	1.0
QDA0540X05S060C	●	5.4	6	82	35	44	36	1.1
QDA0550X05S060C	●	5.5	6	82	35	44	36	1.1
QDA0560X05S060C	●	5.6	6	82	35	44	36	1.1
QDA0570X05S060C	●	5.7	6	82	35	44	36	1.1

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0580X05S060C	●	5.8	6	82	35	44	36	1.1
QDA0590X05S060C	●	5.9	6	82	35	44	36	1.2
QDA0600X05S060C	●	6	6	82	35	44	36	1.2
QDA0610X05S080C	●	6.1	8	91	43	53	36	1.2
QDA0620X05S080C	●	6.2	8	91	43	53	36	1.2
QDA0630X05S080C	●	6.3	8	91	43	53	36	1.2
QDA0640X05S080C	●	6.4	8	91	43	53	36	1.3
QDA0650X05S080C	●	6.5	8	91	43	53	36	1.3
QDA0660X05S080C	●	6.6	8	91	43	53	36	1.3
QDA0670X05S080C	●	6.7	8	91	43	53	36	1.3
QDA0680X05S080C	●	6.8	8	91	43	53	36	1.3
QDA0690X05S080C	●	6.9	8	91	43	53	36	1.4
QDA0700X05S080C	●	7	8	91	43	53	36	1.4
QDA0710X05S080C	●	7.1	8	91	43	53	36	1.4
QDA0720X05S080C	●	7.2	8	91	43	53	36	1.4
QDA0730X05S080C	●	7.3	8	91	43	53	36	1.4
QDA0740X05S080C	●	7.4	8	91	43	53	36	1.5
QDA0750X05S080C	●	7.5	8	91	43	53	36	1.5
QDA0760X05S080C	●	7.6	8	91	43	53	36	1.5
QDA0770X05S080C	●	7.7	8	91	43	53	36	1.5
QDA0780X05S080C	●	7.8	8	91	43	53	36	1.5
QDA0790X05S080C	●	7.9	8	91	43	53	36	1.6
QDA0800X05S080C	●	8	8	91	43	53	36	1.6
QDA0810X05S100C	●	8.1	10	103	49	61	40	1.6
QDA0820X05S100C	●	8.2	10	103	49	61	40	1.6
QDA0830X05S100C	●	8.3	10	103	49	61	40	1.6
QDA0840X05S100C	●	8.4	10	103	49	61	40	1.7
QDA0850X05S100C	●	8.5	10	103	49	61	40	1.7

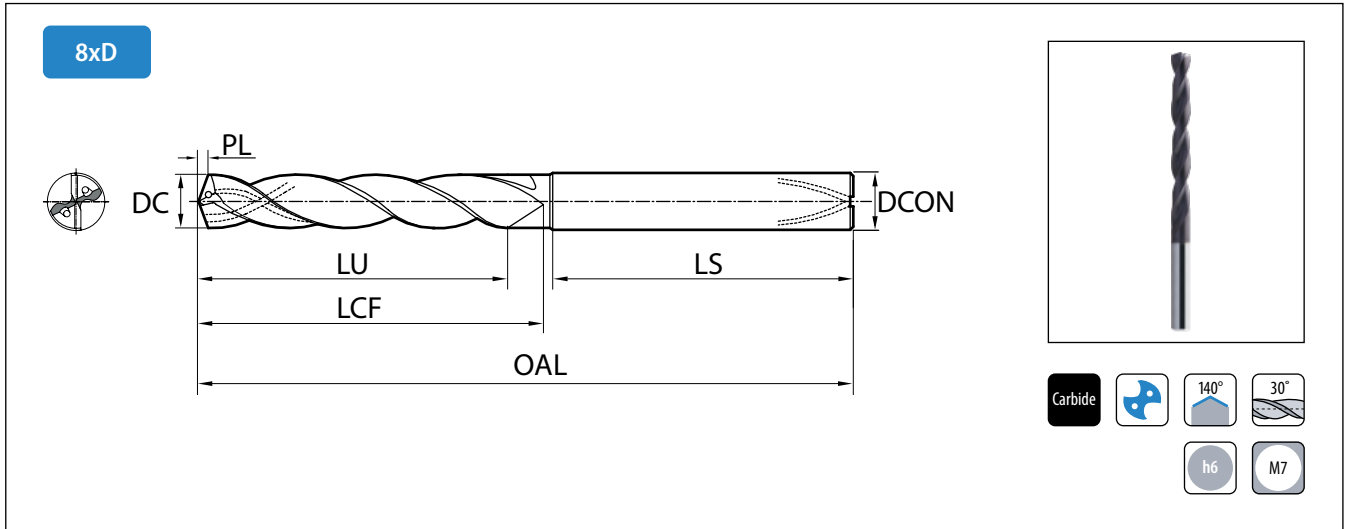
## Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X05S100C	●	8.6	10	103	43	61	40	1.7
QDA0870X05S100C	●	8.7	10	103	43	61	40	1.7
QDA0880X05S100C	●	8.8	10	103	43	61	40	1.7
QDA0890X05S100C	●	8.9	10	103	43	61	40	1.8
QDA0900X05S100C	●	9	10	103	43	61	40	1.8
QDA0910X05S100C	●	9.1	10	103	43	61	40	1.8
QDA0920X05S100C	●	9.2	10	103	43	61	40	1.8
QDA0930X05S100C	●	9.3	10	103	43	61	40	1.8
QDA0940X05S100C	●	9.4	10	103	43	61	40	1.9
QDA0950X05S100C	●	9.5	10	103	43	61	40	1.9
QDA0960X05S100C	●	9.6	10	103	43	61	40	1.9
QDA0970X05S100C	●	9.7	10	103	43	61	40	1.9
QDA0980X05S100C	●	9.8	10	103	43	61	40	1.9
QDA0990X05S100C	●	9.9	10	103	49	61	40	2.0
QDA1000X05S100C	●	10	10	103	49	61	40	2.0
QDA1020X05S120C	●	10.2	12	118	56	71	45	2.0
QDA1050X05S120C	●	10.5	12	118	56	71	45	2.1
QDA1080X05S120C	●	10.8	12	118	56	71	45	2.1
QDA1100X05S120C	●	11	12	118	56	71	45	2.2
QDA1120X05S120C	●	11.2	12	118	56	71	45	2.2
QDA1130X05S120C	●	11.3	12	118	56	71	45	2.2
QDA1150X05S120C	●	11.5	12	118	56	71	45	2.3
QDA1180X05S120C	●	11.8	12	118	56	71	45	2.3
QDA1200X05S120C	●	12	12	118	56	71	45	2.4
QDA1220X05S140C	●	12.2	14	124	60	77	45	2.4
QDA1250X05S140C	●	12.5	14	124	60	77	45	2.5
QDA1270X05S140C	●	12.7	14	124	60	77	45	2.5
QDA1280X05S140C	●	12.8	14	124	60	77	45	2.5

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA1300X05S140C	●	13	14	124	60	77	45	2.6
QDA1330X05S140C	●	13.3	14	124	60	77	45	2.6
QDA1350X05S140C	●	13.5	14	124	60	77	45	2.7
QDA1370X05S140C	●	13.7	14	124	60	77	45	2.7
QDA1380X05S140C	●	13.8	14	124	60	77	45	2.7
QDA1400X05S140C	●	14	14	124	60	77	45	2.8
QDA1450X05S160C	●	14.5	16	133	63	83	45	2.9
QDA1500X05S160C	●	15	16	133	63	83	48	3.0
QDA1530X05S160C	●	15.3	16	133	63	83	48	3.0
QDA1550X05S160C	●	15.5	16	133	63	83	48	3.1
QDA1580X05S160C	●	15.8	16	133	63	83	48	3.1
QDA1600X05S160C	●	16	16	133	63	83	48	3.2
QDA1650X05S180C	●	16.5	18	143	71	93	48	3.3
QDA1700X05S180C	●	17	18	143	71	93	48	3.4
QDA1750X05S180C	●	17.5	18	143	71	93	48	3.5
QDA1800X05S180C	●	18	18	143	71	93	48	3.6
QDA1850X05S200C	●	18.5	20	153	77	101	50	3.7
QDA1900X05S200C	●	19	20	153	77	101	50	3.8
QDA1950X05S200C	●	19.5	20	153	77	101	50	3.9
QDA2000X05S200C	●	20	20	153	77	101	50	4.0

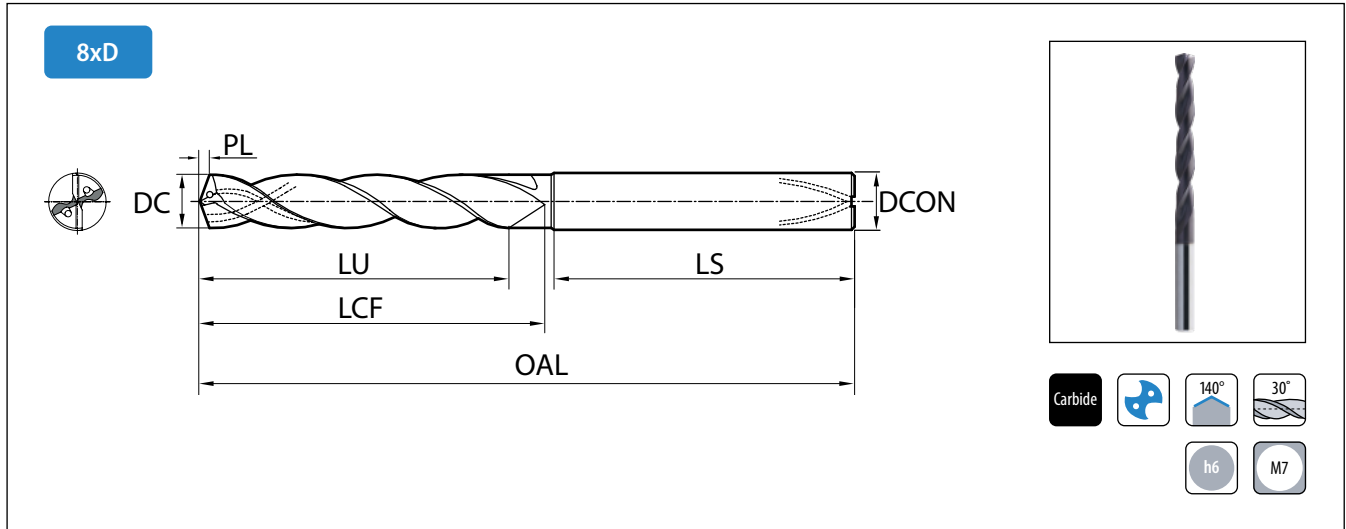
# Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X08S060C	●	3	6	85	32	40	36	0.6
QDA0310X08S060C	●	3.1	6	85	32	40	36	0.6
QDA0320X08S060C	●	3.2	6	85	32	40	36	0.6
QDA0330X08S060C	●	3.3	6	85	32	40	36	0.7
QDA0340X08S060C	●	3.4	6	85	32	40	36	0.7
QDA0350X08S060C	●	3.5	6	85	32	40	36	0.7
QDA0360X08S060C	●	3.6	6	85	36	40	36	0.7
QDA0370X08S060C	●	3.7	6	85	36	40	36	0.7
QDA0380X08S060C	●	3.8	6	85	36	40	36	0.8
QDA0390X08S060C	●	3.9	6	85	36	40	36	0.8
QDA0400X08S060C	●	4	6	85	38	46	36	0.8
QDA0410X08S060C	●	4.1	6	85	38	46	36	0.8
QDA0420X08S060C	●	4.2	6	85	38	46	36	0.8
QDA0430X08S060C	●	4.3	6	97	40	46	36	0.9
QDA0440X08S060C	●	4.4	6	97	40	46	36	0.9
QDA0450X08S060C	●	4.5	6	97	44	46	36	0.9
QDA0460X08S060C	●	4.6	6	97	44	46	36	0.9
QDA0470X08S060C	●	4.7	6	97	44	46	36	0.9
QDA0480X08S060C	●	4.8	6	97	44	46	36	1.0
QDA0490X08S060C	●	4.9	6	97	44	46	36	1.0
QDA0500X08S060C	●	5	6	97	48	57	36	1.0
QDA0510X08S060C	●	5.1	6	97	48	57	36	1.0
QDA0520X08S060C	●	5.2	6	97	48	57	36	1.0
QDA0530X08S060C	●	5.3	6	97	48	57	36	1.0
QDA0540X08S060C	●	5.4	6	97	48	57	36	1.1
QDA0550X08S060C	●	5.5	6	97	48	57	36	1.1
QDA0560X08S060C	●	5.6	6	97	48	57	36	1.1
QDA0570X08S060C	●	5.7	6	97	48	57	36	1.1

Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0580X08S060C	●	5.8	6	97	48	57	36	1.1
QDA0590X08S060C	●	5.9	6	97	48	57	36	1.2
QDA0600X08S060C	●	6	6	97	48	57	36	1.2
QDA0610X08S080C	●	6.1	8	116	64	76	36	1.2
QDA0620X08S080C	●	6.2	8	116	64	76	36	1.2
QDA0630X08S080C	●	6.3	8	116	64	76	36	1.2
QDA0640X08S080C	●	6.4	8	116	64	76	45	1.3
QDA0650X08S080C	●	6.5	8	116	64	76	36	1.3
QDA0660X08S080C	●	6.6	8	116	64	76	36	1.3
QDA0670X08S080C	●	6.7	8	116	64	76	36	1.3
QDA0680X08S080C	●	6.8	8	116	64	76	36	1.3
QDA0690X08S080C	●	6.9	8	116	64	76	36	1.4
QDA0700X08S080C	●	7	8	116	64	76	36	1.4
QDA0710X08S080C	●	7.1	8	116	64	76	36	1.4
QDA0720X08S080C	●	7.2	8	116	64	76	36	1.4
QDA0730X08S080C	●	7.3	8	116	64	76	36	1.4
QDA0740X08S080C	●	7.4	8	116	64	76	36	1.5
QDA0750X08S080C	●	7.5	8	116	64	76	36	1.5
QDA0760X08S080C	●	7.6	8	116	64	76	36	1.5
QDA0770X08S080C	●	7.7	8	116	64	76	36	1.5
QDA0780X08S080C	●	7.8	8	116	64	76	36	1.5
QDA0790X08S080C	●	7.9	8	116	64	76	36	1.6
QDA0800X08S080C	●	8	8	116	64	76	36	1.6
QDA0810X08S100C	●	8.1	10	142	80	95	40	1.6
QDA0820X08S100C	●	8.2	10	142	80	95	40	1.6
QDA0830X08S100C	●	8.3	10	142	80	95	40	1.6
QDA0840X08S100C	●	8.4	10	142	80	95	40	1.7
QDA0850X08S100C	●	8.5	10	142	80	95	40	1.7

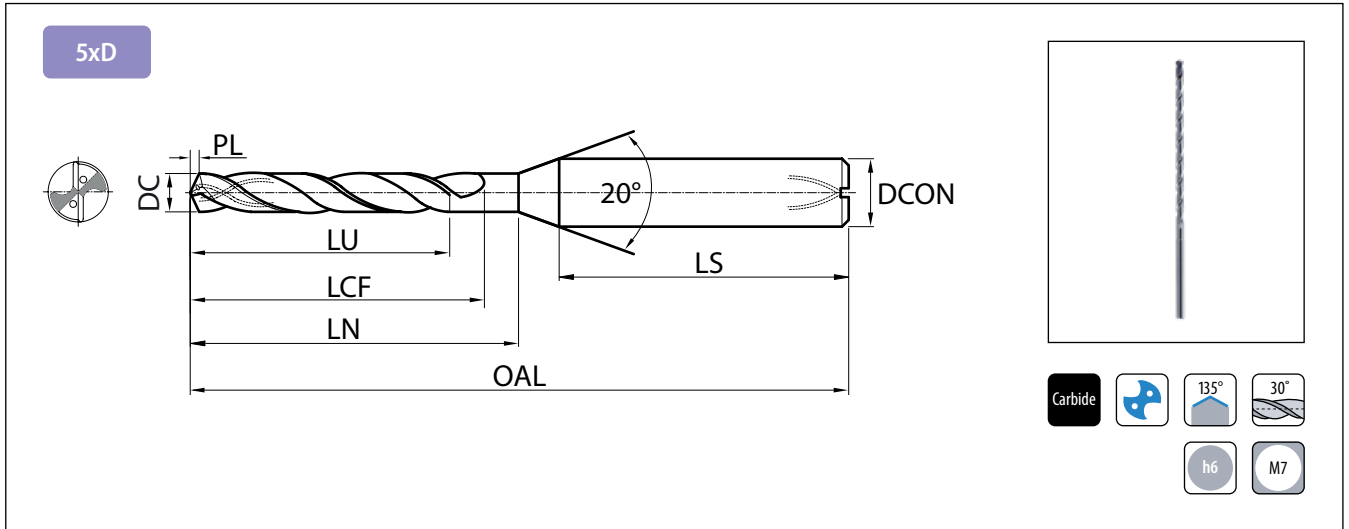
# Type C with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X08S100C	●	8.6	10	142	80	95	40	1.7
QDA0870X08S100C	●	8.7	10	142	80	95	40	1.7
QDA0880X08S100C	●	8.8	10	142	80	95	40	1.7
QDA0890X08S100C	●	8.9	10	142	80	95	40	1.8
QDA0900X08S100C	●	9	10	142	80	95	40	1.8
QDA0910X08S100C	●	9.1	10	142	80	95	40	1.8
QDA0920X08S100C	●	9.2	10	142	80	95	40	1.8
QDA0930X08S100C	●	9.3	10	142	80	95	40	1.8
QDA0940X08S100C	●	9.4	10	142	80	95	40	1.9
QDA0950X08S100C	●	9.5	10	142	80	95	40	1.9
QDA0960X08S100C	●	9.6	10	142	80	95	40	1.9
QDA0970X08S100C	●	9.7	10	142	80	95	40	1.9
QDA0980X08S100C	●	9.8	10	142	80	95	40	1.9
QDA0990X08S100C	●	9.9	10	142	80	95	40	2.0
QDA1000X08S100C	●	10	10	142	80	95	40	2.0
QDA1020X08S120C	●	10.2	12	163	96	114	45	2.0
QDA1050X08S120C	●	10.5	12	163	96	114	45	2.1
QDA1080X08S120C	●	10.8	12	163	96	114	45	2.1
QDA1100X08S120C	●	11	12	163	96	114	45	2.2
QDA1120X08S120C	●	11.2	12	163	96	114	45	2.2
QDA1130X08S120C	●	11.3	12	163	96	114	45	2.2
QDA1150X08S120C	●	11.5	12	163	96	114	45	2.3
QDA1180X08S120C	●	11.8	12	163	96	114	45	2.3
QDA1200X08S120C	●	12	12	163	96	114	45	2.4
QDA1220X08S140C	●	12.2	14	182	112	133	45	2.4
QDA1250X08S140C	●	12.5	14	182	112	133	45	2.5
QDA1270X08S140C	●	12.7	14	182	112	133	45	2.5
QDA1280X08S140C	●	12.8	14	182	112	133	45	2.5

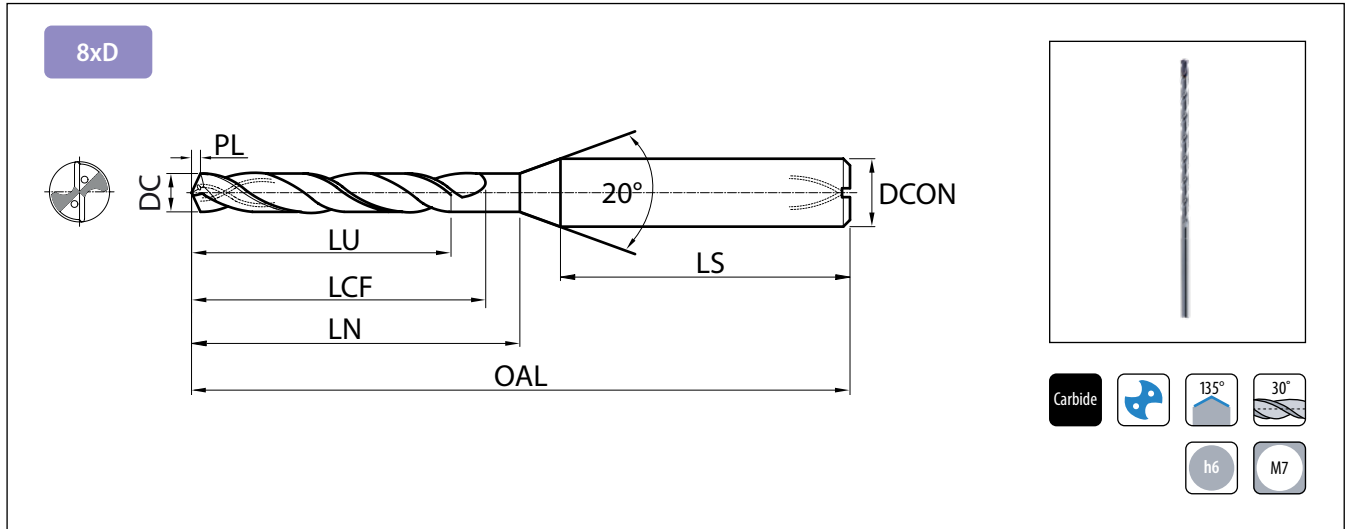
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA1300X08S140C	●	13	14	182	112	133	45	2.6
QDA1330X08S140C	●	13.3	14	182	112	133	45	2.6
QDA1350X08S140C	●	13.5	14	182	112	133	45	2.7
QDA1370X08S140C	●	13.7	14	182	112	133	45	2.7
QDA1380X08S140C	●	13.8	14	182	112	133	45	2.7
QDA1400X08S140C	●	14	14	182	112	133	45	2.8
QDA1450X08S160C	●	14.5	16	204	128	152	48	2.9
QDA1500X08S160C	●	15	16	204	128	152	48	3.0
QDA1530X08S160C	●	15.3	16	204	128	152	48	3.0
QDA1550X08S160C	●	15.5	16	204	128	152	48	3.1
QDA1580X08S160C	●	15.8	16	204	128	152	48	3.1
QDA1600X08S160C	●	16	16	204	128	152	48	3.2
QDA1650X08S180C	●	16.5	18	222	144	171	48	3.3
QDA1700X08S180C	●	17	18	222	144	171	48	3.4
QDA1750X08S180C	●	17.5	18	222	144	171	48	3.5
QDA1800X08S180C	●	18	18	222	144	171	48	3.6
QDA1850X08S200C	●	18.5	20	243	160	190	50	3.7
QDA1900X08S200C	●	19	20	243	160	190	50	3.8
QDA1950X08S200C	●	19.5	20	243	160	190	50	3.9
QDA2000X08S200C	●	20	20	243	160	190	50	4.0

## Micro with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0100X05S030C	●	1	3	50	5	6.5	39.5	0.2
QDA0110X05S030C	●	1.1	3	50	5.7	7.2	38.8	0.2
QDA0120X05S030C	●	1.2	3	50	6.3	7.8	38.2	0.2
QDA0130X05S030C	●	1.3	3	50	7	8.5	37.5	0.3
QDA0140X05S030C	●	1.4	3	50	7.6	9.1	36.9	0.3
QDA0150X05S030C	●	1.5	3	50	8.3	9.8	36.2	0.3
QDA0160X05S030C	●	1.6	3	55	8.9	10.4	35.6	0.3
QDA0170X05S030C	●	1.7	3	55	9.6	11.1	39.9	0.3
QDA0180X05S030C	●	1.8	3	55	10.2	11.7	39.3	0.4
QDA0190X05S030C	●	1.9	3	55	10.9	12.4	38.6	0.4
QDA0200X05S030C	●	2	3	55	11.5	13	38	0.4
QDA0210X05S030C	●	2.1	3	55	12.2	13.7	37.3	0.4
QDA0220X05S030C	●	2.2	3	55	12.8	14.3	36.7	0.4
QDA0230X05S030C	●	2.3	3	55	13.5	15	36	0.5
QDA0240X05S030C	●	2.4	3	55	14.1	15.6	35.4	0.5
QDA0250X05S030	●	2.5	3	55	14.8	16.3	34.7	0.5
QDA0260X05S030C	●	2.6	3	55	15.4	16.9	34.1	0.5
QDA0270X05S030C	●	2.7	3	55	16.1	17.6	33.4	0.5
QDA0280X05S030C	●	2.8	3	55	16.7	18.2	32.8	0.6
QDA0290X05S030C	●	2.9	3	55	17.4	18.9	32.1	0.6

# Micro with coolant holes



Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0100X08S030C	●	1	3	50	8	9.5	36.5	0.2
QDA0110X08S030C	●	1.1	3	50	9	10.5	35.5	0.2
QDA0120X08S030C	●	1.2	3	50	9.9	11.4	34.6	0.2
QDA0130X08S030C	●	1.3	3	50	10.9	12.4	33.6	0.3
QDA0140X08S030C	●	1.4	3	50	11.8	13.3	32.7	0.3
QDA0150X08S030C	●	1.5	3	50	12.8	14.3	31.7	0.3
QDA0160X08S030C	●	1.6	3	50	13.7	15.2	30.8	0.3
QDA0170X08S030C	●	1.7	3	60	14.7	16.2	39.8	0.3
QDA0180X08S030C	●	1.8	3	60	15.6	17.1	38.9	0.4
QDA0190X08S030C	●	1.9	3	60	16.6	18.1	37.9	0.4
QDA0200X08S030C	●	2	3	60	17.5	19	37	0.4
QDA0210X08S030C	●	2.1	3	60	18.5	20	36	0.4
QDA0220X08S030C	●	2.2	3	60	19.4	20.9	35.1	0.4
QDA0230X08S030C	●	2.3	3	60	20.4	21.9	34.1	0.5
QDA0240X08S030C	●	2.4	3	60	21.3	22.8	33.2	0.5
QDA0250X08S030C	●	2.5	3	60	22.3	23.8	32.2	0.5
QDA0260X08S030C	●	2.6	3	60	23.2	24.7	31.3	0.5
QDA0270X08S030C	●	2.7	3	60	24.2	25.7	30.3	0.5
QDA0280X08S030C	●	2.8	3	60	25.1	26.6	29.4	0.6
QDA0290X08S030C	●	2.9	3	60	26.1	27.6	28.4	0.6



# Reference cutting conditions table

QDA • External coolant

**3D** **5D**

Workpiece	P01		P02		P03		M01		M02		K01		K02		S01		S02	
	Carbon steel		Alloy steel		Prehardened steel		Stainless steel				Grey cast iron		Ductile cast iron		Titanium alloy		Nickel alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45		High machinability				Low machinability		-		-		-	
DC (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
φ3		0.072		0.061		0.060		0.049		0.042		0.070		0.052		0.037		0.036
φ4		0.100		0.085		0.083		0.069		0.061		0.095		0.073		0.055		0.056
φ5		0.128		0.111		0.107		0.088		0.074		0.120		0.096		0.069		0.069
φ6		0.157		0.138		0.132		0.109		0.095		0.145		0.119		0.086		0.082
φ7		0.188		0.166		0.157		0.132		0.113		0.170		0.144		0.100		0.090
φ8		0.221		0.197		0.184		0.156		0.136		0.200		0.171		0.130		0.125
φ9		0.250		0.230		0.212		0.173		0.146		0.226		0.200		0.144		0.125
φ10		0.285		0.264		0.241		0.208		0.167		0.252		0.230		0.175		0.143
φ11	105	0.319	80	0.300	50	0.272	40	0.233	35	0.182	95	0.282	70	0.263	25	0.175	20	0.167
φ12		0.361		0.338		0.303		0.255		0.200		0.308		0.296		0.200		0.167
φ13		0.385		0.357		0.323		0.280		0.222		0.333		0.314		0.200		0.200
φ14		0.413		0.375		0.342		0.270		0.250		0.359		0.332		0.233		0.200
φ15		0.422		0.391		0.360		0.300		0.238		0.371		0.348		0.233		0.200
φ16		0.457		0.406		0.377		0.325		0.271		0.405		0.365		0.260		0.250
φ17		0.475		0.419		0.394		0.313		0.271		0.428		0.379		0.260		0.250
φ18		0.489		0.431		0.409		0.313		0.257		0.447		0.393		0.260		0.250
φ19		0.511		0.442		0.423		0.343		0.300		0.469		0.406		0.260		0.250
φ20		0.529		0.452		0.437		0.329		0.283		0.463		0.418		0.300		0.225

Workpiece	N01		N02		N03	
	Wrought aluminium		Cast aluminium		Copper alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
φ3		0.058		0.063		0.062
φ4		0.081		0.087		0.085
φ5		0.104		0.111		0.110
φ6		0.128		0.138		0.136
φ7		0.155		0.164		0.165
φ8		0.183		0.194		0.194
φ9		0.211		0.222		0.224
φ10		0.241		0.254		0.257
φ11		0.272		0.287		0.290
φ12	200	0.300	165	0.321	140	0.318
φ13		0.322		0.339		0.339
φ14		0.335		0.357		0.361
φ15		0.349		0.368		0.378
φ16		0.365		0.391		0.393
φ17		0.374		0.409		0.399
φ18		0.383		0.412		0.418
φ19		0.394		0.429		0.426
φ20		0.406		0.432		0.430



## Type N

### Reference cutting data for QDA drill without internal coolant.

Note! These reference cutting data indicators are just for reference. They should be adjusted according to the different cutting environments.

# Reference cutting conditions table

QDA • Internal coolant

3D

5D

Workpiece	P01		P02		P03		M01		M02		K01		K02		S01		S02	
	Carbon steel		Alloy steel		Prehardened steel		Stainless steel				Grey cast iron		Ductile cast iron		Titanium alloy		Nickel alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45		High machinability				Low machinability		-		-		-	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
φ3		0.063		0.068		0.080		0.048		0.054		0.073		0.071		0.047		0.026
φ4		0.090		0.098		0.110		0.067		0.075		0.104		0.099		0.066		0.039
φ5		0.119		0.132		0.143		0.085		0.094		0.136		0.128		0.085		0.048
φ6		0.151		0.171		0.178		0.106		0.115		0.172		0.160		0.105		0.058
φ7		0.185		0.214		0.215		0.125		0.135		0.211		0.194		0.126		0.075
φ8		0.222		0.261		0.253		0.150		0.160		0.252		0.230		0.156		0.086
φ9		0.262		0.312		0.294		0.168		0.178		0.297		0.268		0.173		0.092
φ10		0.304		0.368		0.337		0.190		0.206		0.344		0.308		0.208		0.108
φ11	175	0.349	120	0.427	65	0.382	60	0.217	50	0.220	140	0.394	105	0.351	40	0.233	35	0.118
φ12		0.396		0.491		0.429		0.250		0.236		0.447		0.395		0.255		0.130
φ13		0.417		0.503		0.457		0.267		0.254		0.472		0.415		0.280		0.133
φ14		0.437		0.511		0.484		0.279		0.275		0.495		0.433		0.270		0.150
φ15		0.454		0.515		0.509		0.292		0.291		0.517		0.449		0.289		0.150
φ16		0.470		0.514		0.534		0.317		0.320		0.537		0.463		0.313		0.157
φ17		0.484		0.509		0.557		0.308		0.320		0.554		0.475		0.313		0.157
φ18		0.496		0.499		0.578		0.336		0.344		0.570		0.485		0.300		0.157
φ19		0.506		0.485		0.599		0.327		0.344		0.585		0.494		0.329		0.183
φ20		0.514		0.466		0.618		0.350		0.375		0.597		0.500		0.314		0.183

Workpiece	N01		N02		N03	
	Wrought aluminium		Cast aluminium		Copper alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
φ3		0.076		0.073		0.077
φ4		0.107		0.102		0.107
φ5		0.140		0.134		0.139
φ6		0.176		0.169		0.172
φ7		0.216		0.204		0.206
φ8		0.256		0.244		0.245
φ9		0.301		0.287		0.281
φ10		0.347		0.327		0.324
φ11	310	0.397	220	0.377	190	0.369
φ12		0.446		0.424		0.408
φ13		0.471		0.450		0.434
φ14		0.486		0.461		0.452
φ15		0.505		0.483		0.472
φ16		0.516		0.500		0.499
φ17		0.522		0.505		0.513
φ18		0.536		0.526		0.531
φ19		0.544		0.532		0.548
φ20		0.540		0.525		0.549



## Type C

### Reference cutting data for QDA drill with internal coolant.

Note! These reference cutting data indicators are just for reference. They should be adjusted according to the different cutting environments.

# Reference cutting conditions table (Z2)

QDA • Internal coolant

8D

Workpiece	P01		P02		P03		M01		M02		K01		K02		S01		S02	
	Carbon steel		Alloy steel		Prehardened steel		Stainless steel				Grey cast iron		Ductile cast iron		Titanium alloy		Nickel alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45		High machinability		Low machinability		-		-		-		-	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
ø3		0.051		0.056		0.066		0.041		0.047		0.059		0.058		0.037		0.022
ø4		0.073		0.083		0.091		0.055		0.066		0.084		0.082		0.054		0.033
ø5		0.097		0.111		0.117		0.072		0.081		0.110		0.103		0.065		0.040
ø6		0.124		0.141		0.143		0.089		0.100		0.141		0.131		0.084		0.050
ø7		0.151		0.178		0.173		0.109		0.116		0.173		0.161		0.106		0.057
ø8		0.182		0.220		0.209		0.125		0.138		0.206		0.189		0.129		0.067
ø9		0.211		0.258		0.240		0.144		0.147		0.242		0.222		0.138		0.073
ø10		0.248		0.309		0.272		0.169		0.177		0.277		0.255		0.158		0.090
ø11	150	0.282	100	0.359	55	0.319	50	0.180	40	0.192	120	0.320	90	0.281	35	0.182	30	0.100
ø12		0.325		0.407		0.353		0.200		0.209		0.366		0.325		0.200		0.113
ø13		0.338		0.416		0.371		0.215		0.230		0.377		0.330		0.222		0.100
ø14		0.349		0.426		0.385		0.225		0.230		0.396		0.348		0.238		0.114
ø15		0.369		0.418		0.417		0.245		0.244		0.419		0.365		0.225		0.114
ø16		0.387		0.430		0.445		0.270		0.275		0.438		0.383		0.257		0.133
ø17		0.383		0.426		0.436		0.260		0.275		0.443		0.394		0.257		0.133
ø18		0.400		0.417		0.470		0.289		0.275		0.450		0.406		0.243		0.133
ø19		0.400		0.406		0.460		0.278		0.314		0.462		0.388		0.267		0.133
ø20		0.421		0.394		0.511		0.313		0.300		0.470		0.400		0.250		0.160

Workpiece	N01		N02		N03	
	Wrought aluminium		Cast aluminium		Copper alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
ø3		0.064		0.059		0.064
ø4		0.090		0.083		0.089
ø5		0.117		0.109		0.116
ø6		0.148		0.138		0.145
ø7		0.179		0.166		0.173
ø8		0.214		0.199		0.203
ø9		0.252		0.231		0.235
ø10		0.290		0.266		0.273
ø11		0.329		0.307		0.302
ø12	260	0.375	190	0.343	160	0.340
ø13		0.392		0.362		0.360
ø14		0.403		0.375		0.376
ø15		0.416		0.388		0.400
ø16		0.431		0.405		0.416
ø17		0.441		0.411		0.433
ø18		0.450		0.424		0.438
ø19		0.450		0.431		0.456
ø20		0.450		0.426		0.462



## Type C

### Reference cutting data for QDA drill with internal coolant.

Note! These reference cutting data indicators are just for reference. They should be adjusted according to the different cutting environments.

# Reference cutting conditions table (Z2)

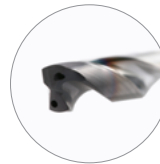
QDA Micro • Internal coolant

5D

8D

Workpiece	P01		P02		P03		M01		M02		K01		K02		S01		S02	
	Carbon steel		Alloy steel		Prehardened steel		Stainless steel		Stainless steel		Grey cast iron		Ductile cast iron		Titanium alloy		Nickel Alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45		High machinability		Low machinability		-		-		-		-	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
ø1.0		0.017		0.016		0.014		0.015		0.014		0.018		0.016		0.013		0.009
ø1.5		0.026		0.024		0.022		0.022		0.021		0.027		0.024		0.019		0.016
ø2.0	90	0.035	80	0.031	65	0.029	60	0.029	40	0.028	85	0.035	65	0.032	30	0.025	20	0.025
ø2.5		0.043		0.039		0.036		0.036		0.035		0.044		0.040		0.031		0.035
ø3.0		0.052		0.047		0.043		0.044		0.042		0.053		0.048		0.038		0.045

Workpiece	N01		N02		N03	
	Wrought aluminium		Cast aluminium		Copper alloy	
Properties	-		520 < Rm < 1200		35 ≤ HRC < 45	
D (mm)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)	Vc (m/min)	fn (mm/rev)
ø1.0		0.017		0.018		0.016
ø1.5		0.026		0.026		0.024
ø2.0	145	0.035	125	0.035	115	0.032
ø2.5		0.043		0.044		0.040
ø3.0		0.052		0.053		0.049



## Micro

### Reference cutting data for QDA Micro drill with internal coolant.

Note! These reference cutting data indicators are just for reference. They should be adjusted according to the different cutting environments.