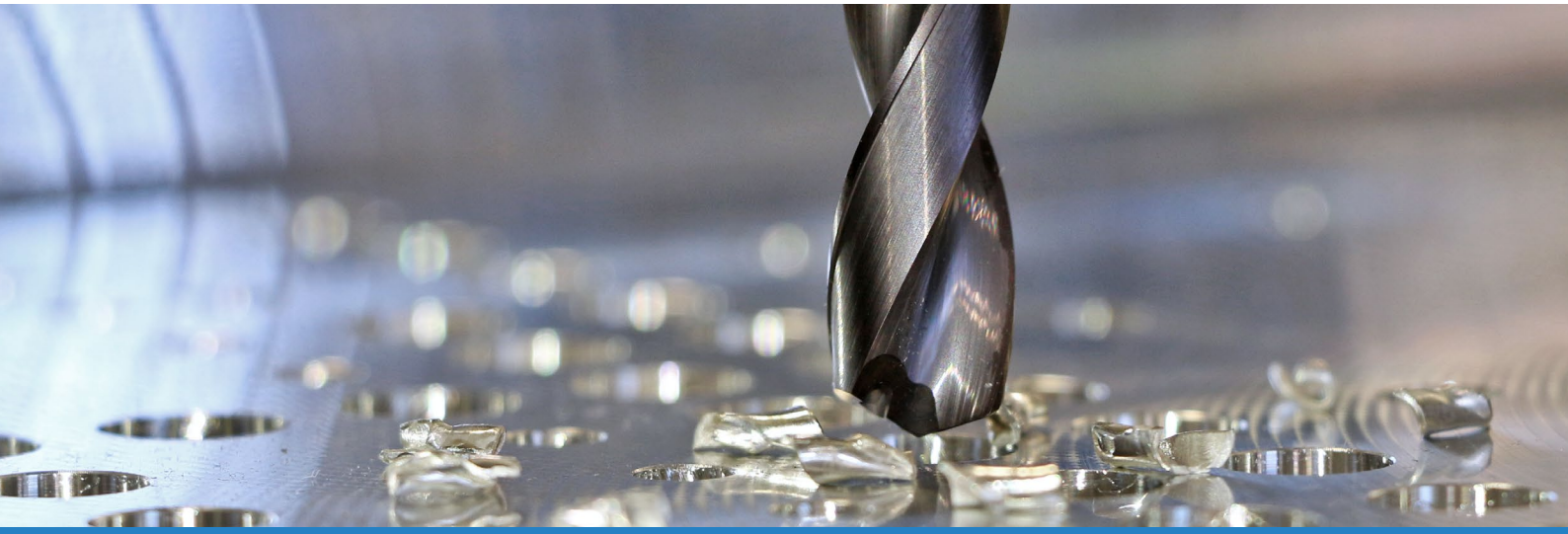
KYOCERA

New versatile coated
solid carbide drill

SM TOOLS®

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 ø 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.

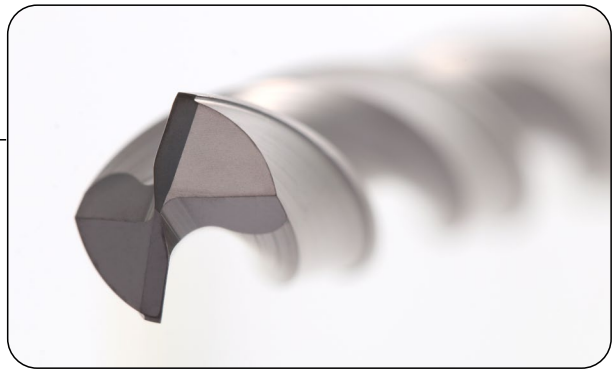
Styles available Tool range (Z2)

Type N
Normal type

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

Diameter range

3×D	5×D
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

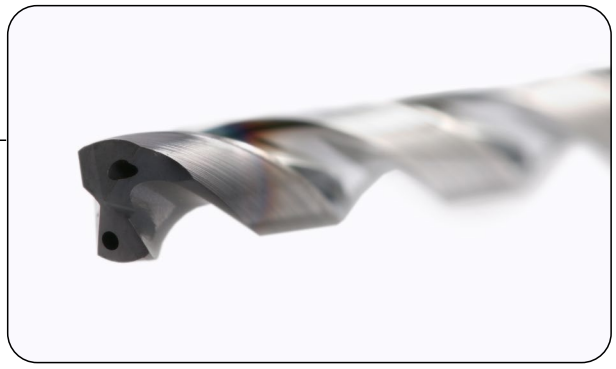
3×D	5×D	8×D
Ø3.0 - Ø20.0 mm		

Micro
Internal coolant

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

Diameter range

5×D	8×D
Ø1.0 - Ø3.0 mm	

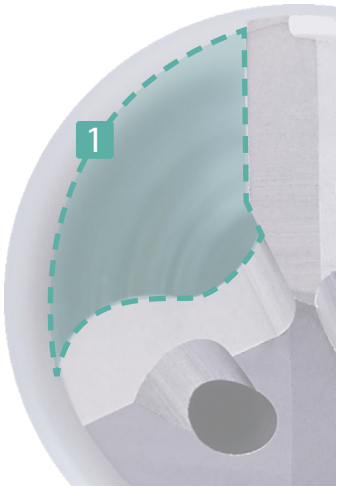


High feed technology

Coated solid carbide drill

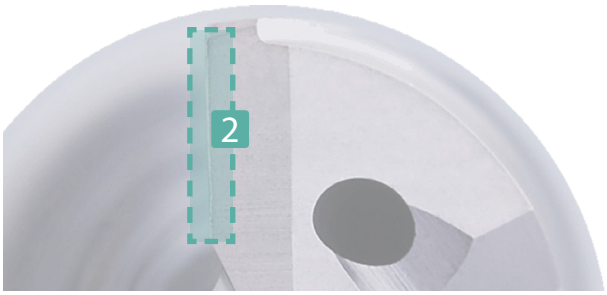
Wider chip pocket

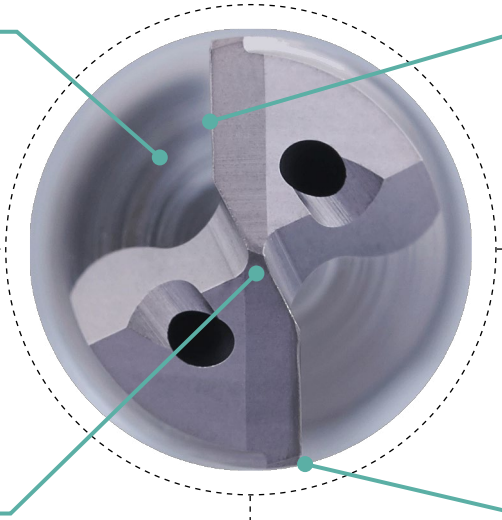
The wider area is offering more space so that the chip pocket enhances a better and smoother chip evacuation.



Straight edge profile

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



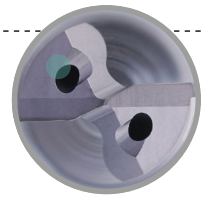


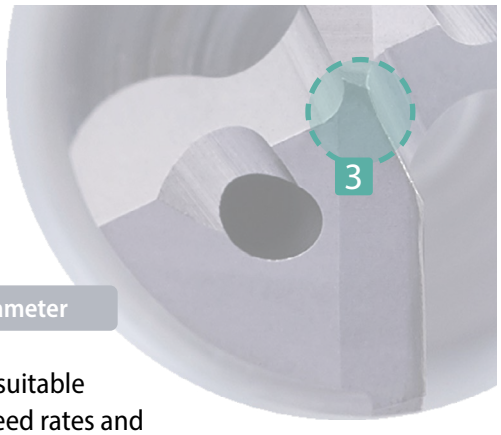
1 **Wider chip pocket**
Smoother chip evacuation

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

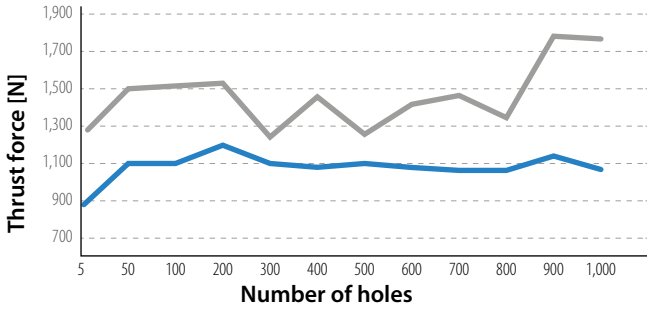
P M K N S

Chip condition Good chip forming

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

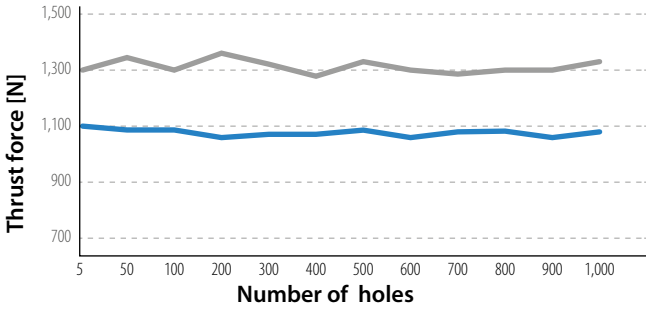
Thrust force (Internal evaluation) (Fz)

St.52



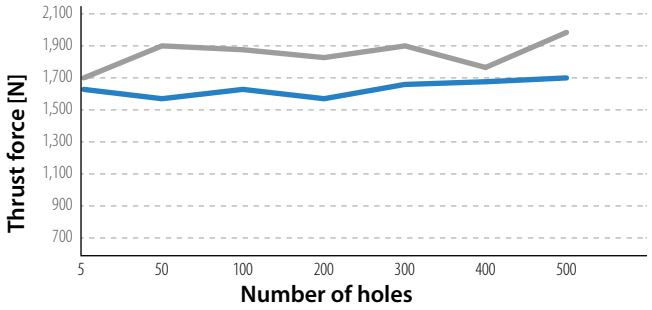
- From average value competitor is **35% higher**
- Lower and more stable thrust force from QDA

GGG40

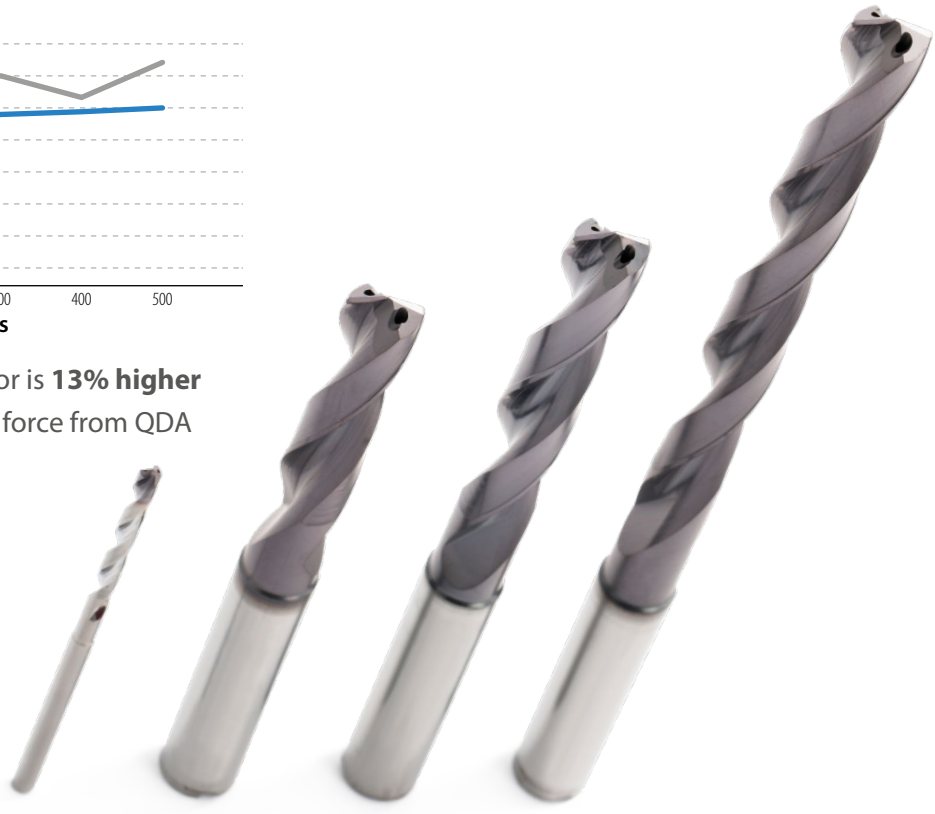


- From average value competitor is **23% higher**
- Lower thrust force from QDA

AISI 304

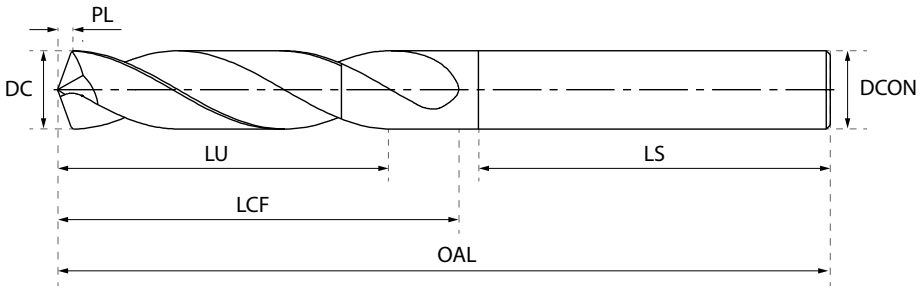


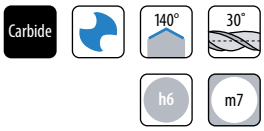
- From average value competitor is **13% higher**
- Lower and more stable thrust force from QDA



Type N No coolant holes

3xD



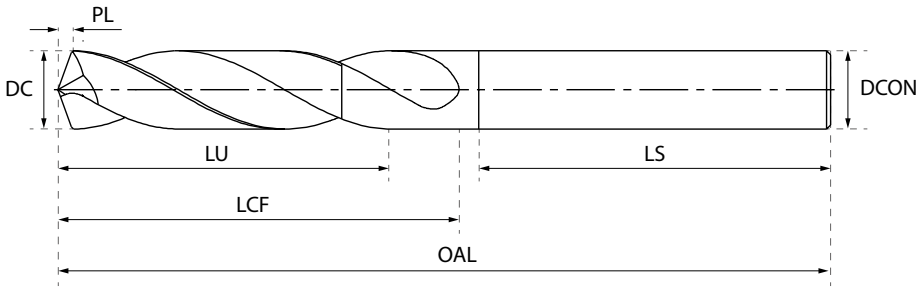


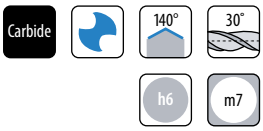
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X03S060N	●	3	6	62	14	20	36	0.6
QDA0310X03S060N	●	3.1	6	62	14	20	36	0.6
QDA0320X03S060N	●	3.2	6	62	14	20	36	0.6
QDA0330X03S060N	●	3.3	6	62	14	20	36	0.7
QDA0340X03S060N	●	3.4	6	62	14	20	36	0.7
QDA0350X03S060N	●	3.5	6	62	14	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

3xD



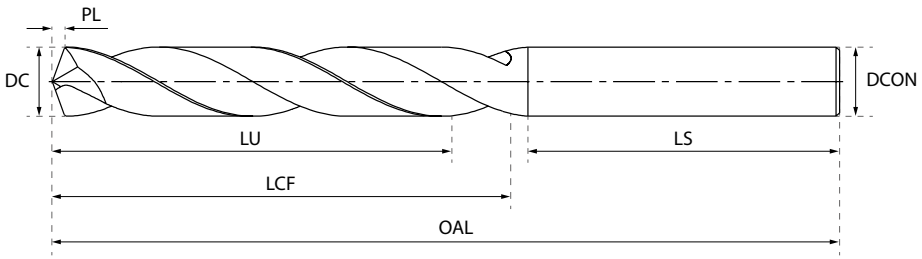


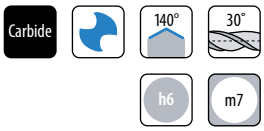
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X03S100N	●	8.6	10	89	35	47	40	1.7
QDA0870X03S100N	●	8.7	10	89	35	47	40	1.7
QDA0880X03S100N	●	8.8	10	89	35	47	40	1.7
QDA0890X03S100N	●	8.9	10	89	35	47	40	1.8
QDA0900X03S100N	●	9	10	89	35	47	40	1.8
QDA0910X03S100N	●	9.1	10	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

5xD



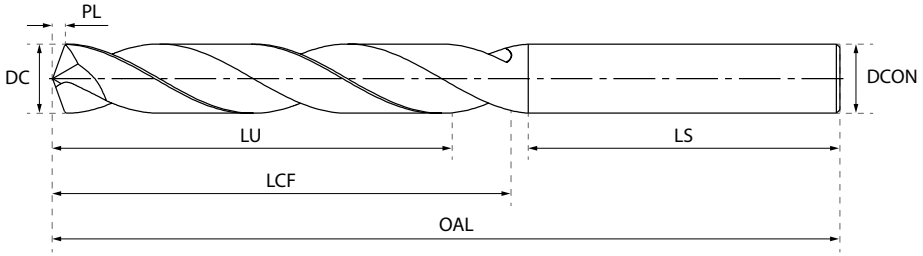


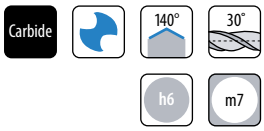
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X05S060N	●	3	6	66	23	28	36	0.6
QDA0310X05S060N	●	3.1	6	66	23	28	36	0.6
QDA0320X05S060N	●	3.2	6	66	23	28	36	0.6
QDA0330X05S060N	●	3.3	6	66	23	28	36	0.7
QDA0340X05S060N	●	3.4	6	66	23	28	36	0.7
QDA0350X05S060N	●	3.5	6	66	23	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



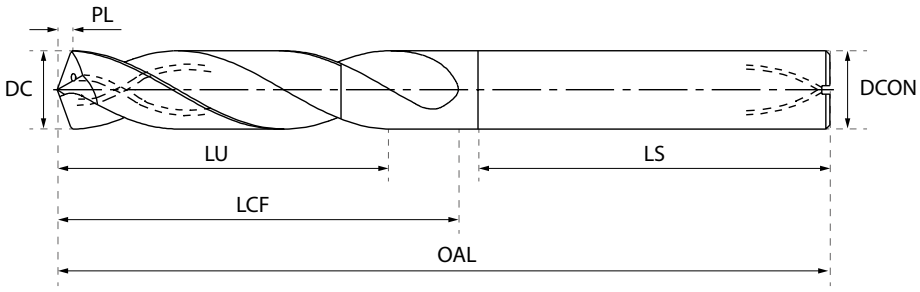


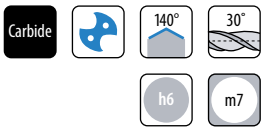
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X05S100N	●	8.6	10	103	49	61	36	1.7
QDA0870X05S100N	●	8.7	10	103	49	61	36	1.7
QDA0880X05S100N	●	8.8	10	103	49	61	36	1.7
QDA0890X05S100N	●	8.9	10	103	49	61	36	1.8
QDA0900X05S100N	●	9	10	103	49	61	40	1.8
QDA0910X05S100N	●	9.1	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

3xD



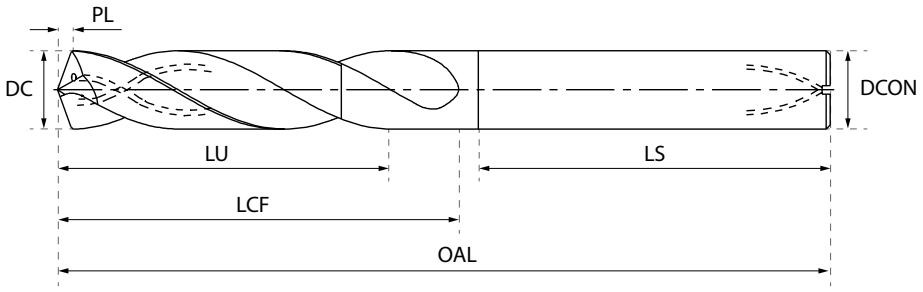


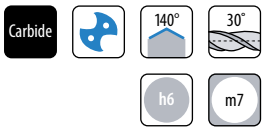
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X03S060C	●	3	6	62	14	20	36	0.6
QDA0310X03S060C	●	3.1	6	62	14	20	36	0.6
QDA0320X03S060C	●	3.2	6	62	14	20	36	0.6
QDA0330X03S060C	●	3.3	6	62	14	20	36	0.7
QDA0340X03S060C	●	3.4	6	62	14	20	36	0.7
QDA0350X03S060C	●	3.5	6	62	14	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

3xD



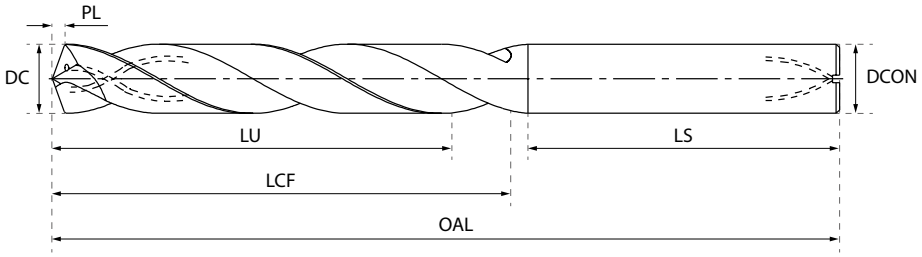


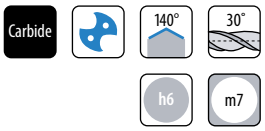
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X03S100C	●	8.6	10	89	35	47	40	1.7
QDA0870X03S100C	●	8.7	10	89	35	47	40	1.7
QDA0880X03S100C	●	8.8	10	89	35	47	40	1.7
QDA0890X03S100C	●	8.9	10	89	35	47	40	1.8
QDA0900X03S100C	●	9	10	89	35	47	40	1.8
QDA0910X03S100C	●	9.1	10	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

5xD



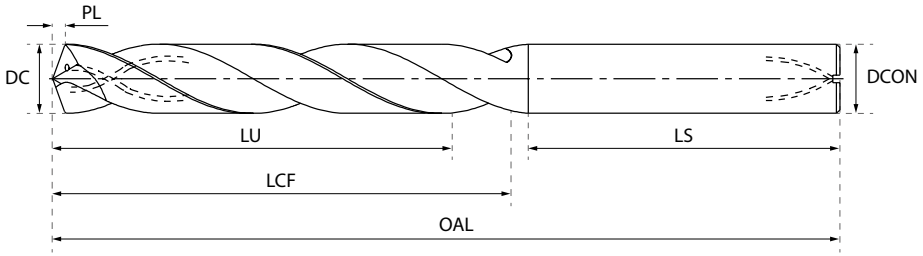


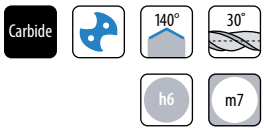
Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0300X05S060C	●	3	6	66	23	28	36	0.6
QDA0310X05S060C	●	3.1	6	66	23	28	36	0.6
QDA0320X05S060C	●	3.2	6	66	23	28	36	0.6
QDA0330X05S060C	●	3.3	6	66	23	8	6	0.7
QDA0340X05S060C	●	3.4	6	66	23	28	36	0.7
QDA0350X05S060C	●	3.5	6	66	23	28	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

5xD



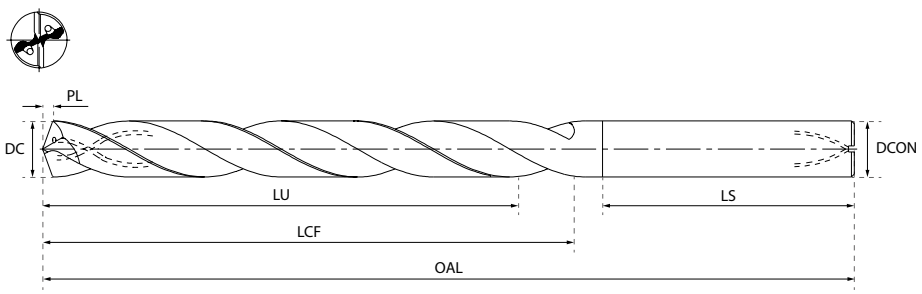


Description	Availability	Dimensions (mm)						
		DC	DCON	OAL	LU	LCF	LS	PL
QDA0860X05S100C	●	8.6	10	103	43	61	40	1.7
QDA0870X05S100C	●	8.7	10	103	43	61	40	1.7
QDA0880X05S100C	●	8.8	10	103	43	61	40	1.7
QDA0890X05S100C	●	8.9	10	103	43	61	40	1.8
QDA0900X05S100C	●	9	10	103	43	61	40	1.8
QDA0910X05S100C	●	9.1	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

8xD



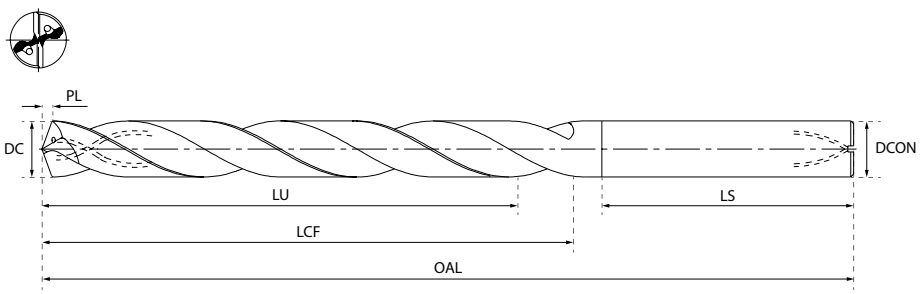
Carbide | 140° | 30° | h6 | m7

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

8xD



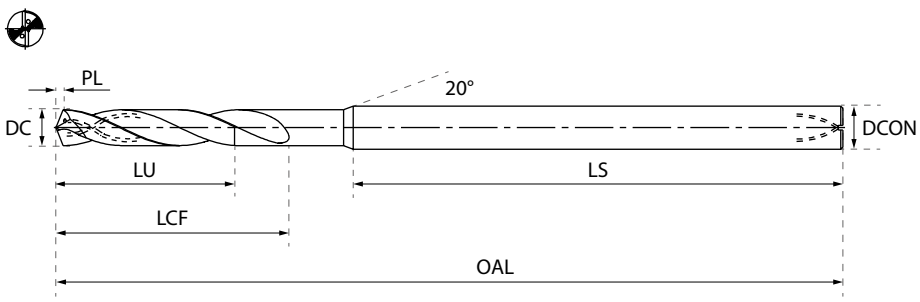
Carbide | 140° | 30° | h6 | m7

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

5xD



Carbide

135°

30°

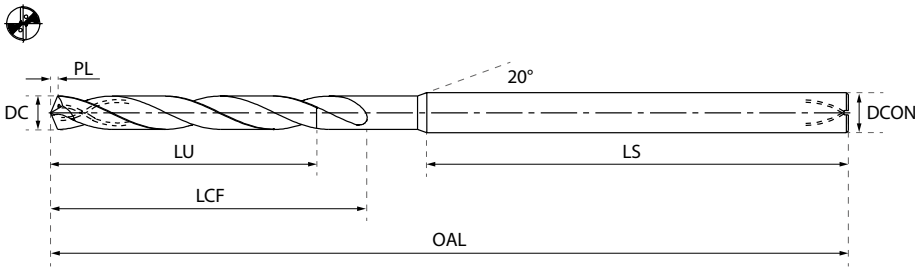
h6

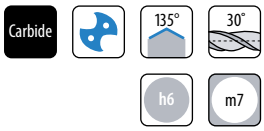
m7

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

8xD





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)**
ø3		0.072		0.061		0.060		0.049		0.042		0.070		0.052		0.037		0.036
ø4		0.100		0.085		0.083		0.069		0.061		0.095		0.073		0.055		0.056
ø5		0.128		0.111		0.107		0.088		0.074		0.120		0.096		0.069		0.069
ø6		0.157		0.138		0.132		0.109		0.095		0.145		0.119		0.086		0.082
ø7		0.188		0.166		0.157		0.132		0.113		0.170		0.144		0.100		0.090
ø8		0.221		0.197		0.184		0.156		0.136		0.200		0.171		0.130		0.125
ø9		0.250		0.230		0.212		0.173		0.146		0.226		0.200		0.144		0.125
ø10		0.285		0.264		0.241		0.208		0.167		0.252		0.230		0.175		0.143
ø11	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
ø12		0.361		0.338		0.303		0.255		0.200		0.308		0.296		0.200		0.167
ø13		0.385		0.357		0.323		0.280		0.222		0.333		0.314		0.200		0.200
ø14		0.413		0.375		0.342		0.270		0.250		0.359		0.332		0.233		0.200
ø15		0.422		0.391		0.360		0.300		0.238		0.371		0.348		0.233		0.200
ø16		0.457		0.406		0.377		0.325		0.271		0.405		0.365		0.260		0.250
ø17		0.475		0.419		0.394		0.313		0.271		0.428		0.379		0.260		0.250
ø18		0.489		0.431		0.409		0.313		0.257		0.447		0.393		0.260		0.250
ø19		0.511		0.442		0.423		0.343		0.300		0.469		0.406		0.260		0.250
ø20		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)**
ø3		0.058		0.063		0.062
ø4		0.081		0.087		0.085
ø5		0.104		0.111		0.110
ø6		0.128		0.138		0.136
ø7		0.155		0.164		0.165
ø8		0.183		0.194		0.194
ø9		0.211		0.222		0.224
ø10		0.241		0.254		0.257
ø11	200	0.272	165	0.287	140	0.290
ø12		0.300		0.321		0.318
ø13		0.322		0.339		0.339
ø14		0.335		0.357		0.361
ø15		0.349		0.368		0.378
ø16		0.365		0.391		0.393
ø17		0.374		0.409		0.399
ø18		0.383		0.412		0.418
ø19		0.394		0.429		0.426
ø20		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)**
ø3		0.063		0.068		0.080		0.048		0.054		0.073		0.071		0.047		0.026
ø4		0.090		0.098		0.110		0.067		0.075		0.104		0.099		0.066		0.039
ø5		0.119		0.132		0.143		0.085		0.094		0.136		0.128		0.085		0.048
ø6		0.151		0.171		0.178		0.106		0.115		0.172		0.160		0.105		0.058
ø7		0.185		0.214		0.215		0.125		0.135		0.211		0.194		0.126		0.075
ø8		0.222		0.261		0.253		0.150		0.160		0.252		0.230		0.156		0.086
ø9		0.262		0.312		0.294		0.168		0.178		0.297		0.268		0.173		0.092
ø10		0.304		0.368		0.337		0.190		0.206		0.344		0.308		0.208		0.108
ø11	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
ø12		0.396		0.491		0.429		0.250		0.236		0.447		0.395		0.255		0.130
ø13		0.417		0.503		0.457		0.267		0.254		0.472		0.415		0.280		0.133
ø14		0.437		0.511		0.484		0.279		0.275		0.495		0.433		0.270		0.150
ø15		0.454		0.515		0.509		0.292		0.291		0.517		0.449		0.289		0.150
ø16		0.470		0.514		0.534		0.317		0.320		0.537		0.463		0.313		0.157
ø17		0.484		0.509		0.557		0.308		0.320		0.554		0.475		0.313		0.157
ø18		0.496		0.499		0.578		0.336		0.344		0.570		0.485		0.300		0.157
ø19		0.506		0.485		0.599		0.327		0.344		0.585		0.494		0.329		0.183
ø20		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)**
ø3		0.076		0.073		0.077
ø4		0.107		0.102		0.107
ø5		0.140		0.134		0.139
ø6		0.176		0.169		0.172
ø7		0.216		0.204		0.206
ø8		0.256		0.244		0.245
ø9		0.301		0.287		0.281
ø10		0.347		0.327		0.324
ø11	310	0.397	220	0.377	190	0.369
ø12		0.446		0.424		0.408
ø13		0.471		0.450		0.434
ø14		0.486		0.461		0.452
ø15		0.505		0.483		0.472
ø16		0.516		0.500		0.499
ø17		0.522		0.505		0.513
ø18		0.536		0.526		0.531
ø19		0.544		0.532		0.548
ø20		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	260	0.329	190	0.307	160	0.302
ø12		0.375		0.343		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.

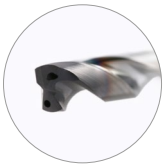
Reference cutting conditions table (Z2)

QDA Micro • Internal coolant

5D 8D

Workpiece	P01		P02		P03		M01		M02		K01		K02		S01		S02	
	Carbon steel		Alloy steel		Prehardened steel		Stainless steel				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.