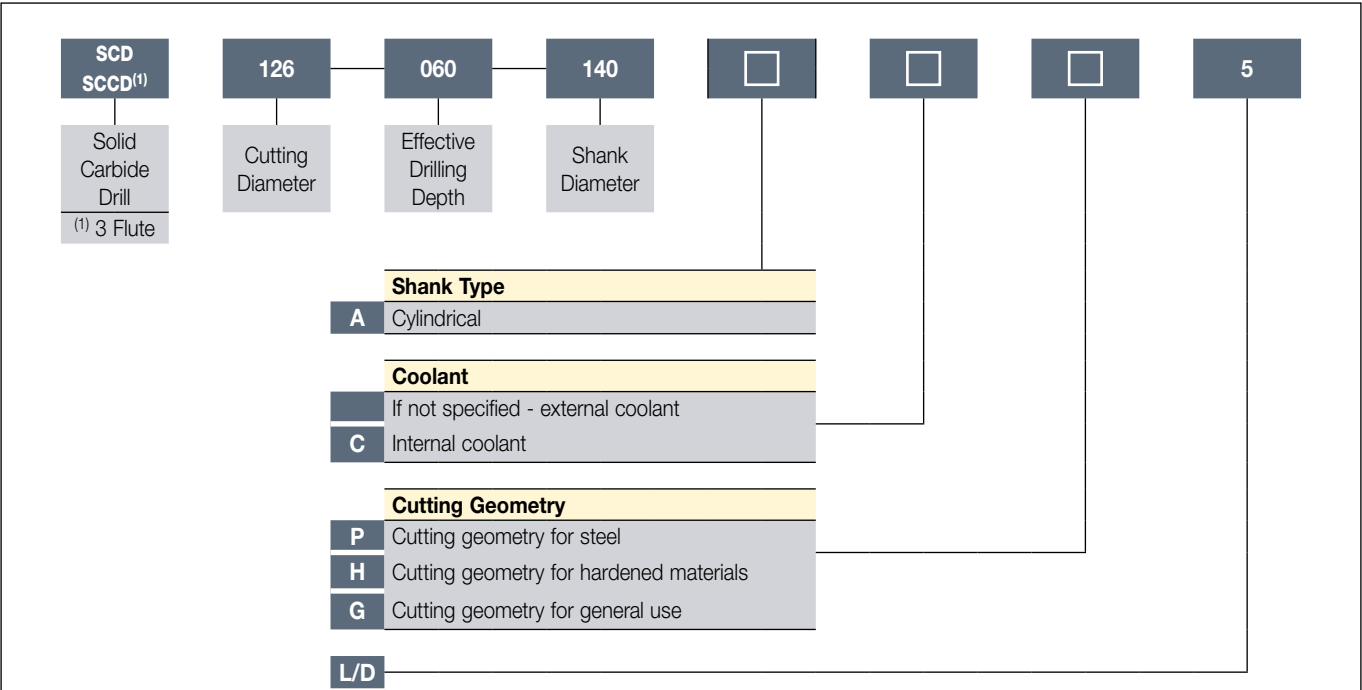


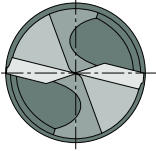
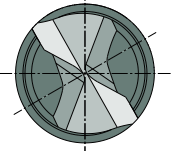
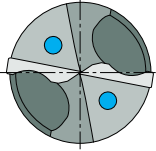
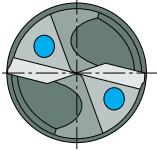
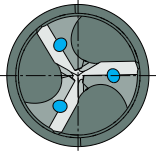
SOLID CARBIDE DRILLS



Identification System

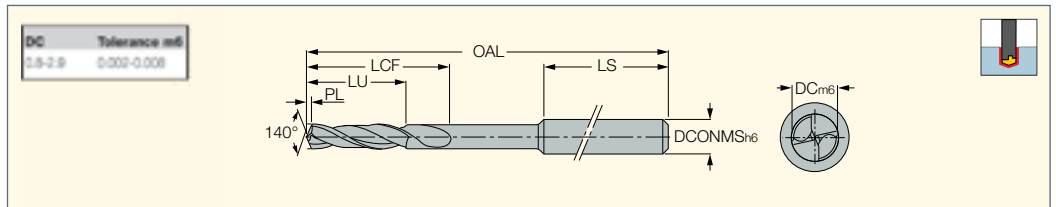


Cutting Edge Configurations

AP	AH	ACG	ACP	SCCD
				

SCD-AP4 (4xD)

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 4xD



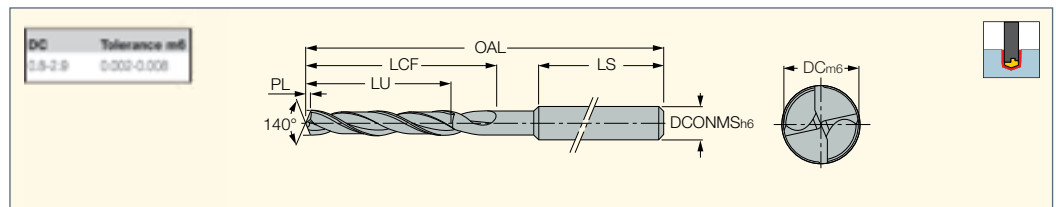
Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	LS	OAL	FTDZ ⁽¹⁾	PL	
SCD 008-003-030 AP4	0.80	3.00	3.2	4.8	37.2	46.00	-	0.150	●
SCD 009-003-030 AP4	0.90	3.00	3.6	5.4	36.6	46.00	-	0.160	●
SCD 010-004-030 AP4	1.00	3.00	4.0	6.0	36.0	46.00	-	0.180	●
SCD 011-004-030 AP4	1.10	3.00	4.4	6.6	35.4	46.00	M1.4	0.200	●
SCD 012-004-030 AP4	1.20	3.00	4.8	7.2	34.8	46.00	-	0.220	●
SCD 013-005-030 AP4	1.30	3.00	5.2	7.8	34.2	46.00	-	0.240	●
SCD 014-005-030 AP4	1.40	3.00	5.6	8.4	33.6	46.00	-	0.250	●
SCD 015-006-030 AP4	1.50	3.00	6.0	9.0	33.0	46.00	-	0.270	●
SCD 016-006-030 AP4	1.60	3.00	6.4	9.6	32.4	46.00	M2	0.290	●
SCD 017-006-030 AP4	1.70	3.00	6.8	10.2	31.8	46.00	-	0.310	●
SCD 018-007-030 AP4	1.80	3.00	7.2	10.8	31.2	46.00	-	0.330	●
SCD 019-007-030 AP4	1.90	3.00	7.6	11.4	30.6	46.00	-	0.350	●
SCD 020-008-030 AP4	2.00	3.00	8.0	12.0	44.0	60.00	-	0.360	●
SCD 021-008-030 AP4	2.10	3.00	8.4	12.6	43.4	60.00	-	0.380	●
SCD 022-008-030 AP4	2.20	3.00	8.8	13.2	42.8	60.00	-	0.400	●
SCD 023-009-030 AP4	2.30	3.00	9.2	13.8	42.2	60.00	-	0.420	●
SCD 024-009-030 AP4	2.40	3.00	9.6	14.4	41.6	60.00	-	0.440	●
SCD 025-010-030 AP4	2.50	3.00	10.0	15.0	41.0	60.00	M3	0.450	●
SCD 026-010-030 AP4	2.60	3.00	10.4	15.6	40.4	60.00	-	0.470	●
SCD 027-010-030 AP4	2.70	3.00	10.8	16.2	39.8	60.00	-	0.490	●
SCD 028-011-030 AP4	2.80	3.00	11.2	16.8	39.2	60.00	-	0.510	●
SCD 029-011-030 AP4	2.90	3.00	11.6	17.4	38.6	60.00	M3.5	0.530	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-AP6 (6xD)

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 6xD



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	LS	OAL	FTDZ ⁽¹⁾	PL	
SCD 008-004-030 AP6	0.80	3.00	4.8	6.4	35.5	46.00	-	0.150	●
SCD 009-005-030 AP6	0.90	3.00	5.4	7.2	34.5	46.00	-	0.160	●
SCD 010-006-030 AP6	1.00	3.00	6.0	8.0	33.8	46.00	-	0.180	●
SCD 011-006-030 AP6	1.10	3.00	6.6	8.8	33.0	46.00	M1.4	0.200	●
SCD 012-007-030 AP6	1.20	3.00	7.2	9.6	32.3	46.00	-	0.220	●
SCD 013-007-030 AP6	1.30	3.00	7.8	10.4	31.5	46.00	-	0.240	●
SCD 014-008-030 AP6	1.40	3.00	8.4	11.2	30.8	46.00	-	0.250	●
SCD 015-009-030 AP6	1.50	3.00	9.0	12.0	30.0	46.00	-	0.270	●
SCD 016-009-030 AP6	1.60	3.00	9.6	12.8	29.3	46.00	M2	0.290	●
SCD 017-010-030 AP6	1.70	3.00	10.2	13.6	42.5	60.00	-	0.310	●
SCD 018-010-030 AP6	1.80	3.00	10.8	14.4	41.8	60.00	-	0.330	●
SCD 019-011-030 AP6	1.90	3.00	11.4	15.2	41.1	60.00	-	0.350	●
SCD 020-012-030 AP6	2.00	3.00	12.0	16.0	40.3	60.00	-	0.360	●
SCD 021-012-030 AP6	2.10	3.00	12.6	16.8	39.6	60.00	-	0.380	●
SCD 022-013-030 AP6	2.20	3.00	13.2	17.6	38.9	60.00	-	0.400	●
SCD 023-013-030 AP6	2.30	3.00	13.8	18.4	38.2	60.00	-	0.420	●
SCD 024-014-030 AP6	2.40	3.00	14.4	19.2	37.5	60.00	-	0.440	●
SCD 025-015-030 AP6	2.50	3.00	15.0	20.0	36.8	60.00	M3	0.450	●
SCD 026-015-030 AP6	2.60	3.00	15.6	20.8	36.1	60.00	-	0.470	●
SCD 027-016-030 AP6	2.70	3.00	16.2	21.6	35.5	60.00	-	0.490	●
SCD 028-016-030 AP6	2.80	3.00	16.8	22.4	34.8	60.00	-	0.510	●
SCD 029-017-030 AP6	2.90	3.00	17.4	23.2	34.4	60.00	M3.5	0.530	●

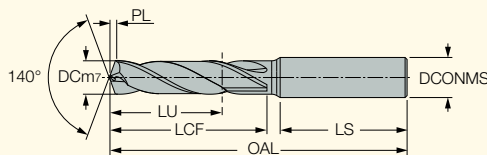
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL**SCD-AP3N (3xD)**

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 3xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 030-014-060 AP3N	3.00	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 031-014-060 AP3N	3.10	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 032-014-060 AP3N	3.20	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 033-014-060 AP3N	3.30	6.00	62.00	14.00	20.0	0.500	34.0	M4	●
SCD 034-014-060 AP3N	3.40	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 035-014-060 AP3N	3.50	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 036-014-060 AP3N	3.60	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 037-014-060 AP3N	3.70	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 038-017-060 AP3N	3.80	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 039-017-060 AP3N	3.90	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 040-017-060 AP3N	4.00	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 041-017-060 AP3N	4.10	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 042-017-060 AP3N	4.20	6.00	66.00	17.00	24.0	0.700	35.0	M5	●
SCD 043-017-060 AP3N	4.30	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 044-017-060 AP3N	4.40	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 045-017-060 AP3N	4.50	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 046-017-060 AP3N	4.60	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 047-017-060 AP3N	4.70	6.00	66.00	17.00	24.0	0.800	35.0	-	●
SCD 048-020-060 AP3N	4.80	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 049-020-060 AP3N	4.90	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 050-020-060 AP3N	5.00	6.00	66.00	20.00	28.0	0.800	36.0	M6	●
SCD 051-020-060 AP3N	5.10	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 052-020-060 AP3N	5.20	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 053-020-060 AP3N	5.30	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 054-020-060 AP3N	5.40	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 055-020-060 AP3N	5.50	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 056-020-060 AP3N	5.60	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 057-020-060 AP3N	5.70	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 058-020-060 AP3N	5.80	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 059-020-060 AP3N	5.90	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 060-020-060 AP3N	6.00	6.00	66.00	20.00	28.0	0.900	36.0	M7	●
SCD 061-024-080 AP3N	6.10	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 062-024-080 AP3N	6.20	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 063-024-080 AP3N	6.30	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 064-024-080 AP3N	6.40	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 065-024-080 AP3N	6.50	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 066-024-080 AP3N	6.60	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 067-024-080 AP3N	6.70	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 068-024-080 AP3N	6.80	8.00	79.00	24.00	34.0	1.100	36.0	M8	●
SCD 069-024-080 AP3N	6.90	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 070-024-080 AP3N	7.00	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 071-029-080 AP3N	7.10	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 072-029-080 AP3N	7.20	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 073-029-080 AP3N	7.30	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 074-029-080 AP3N	7.40	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 075-029-080 AP3N	7.50	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 076-029-080 AP3N	7.60	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 077-029-080 AP3N	7.70	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 078-029-080 AP3N	7.80	8.00	79.00	29.00	41.0	1.200	36.0	M9	●
SCD 079-029-080 AP3N	7.90	8.00	79.00	29.00	41.0	1.300	36.0	-	●
SCD 080-029-080 AP3N	8.00	8.00	79.00	29.00	41.0	1.300	36.0	-	●
SCD 081-035-100 AP3N	8.10	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 082-035-100 AP3N	8.20	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 083-035-100 AP3N	8.30	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 084-035-100 AP3N	8.40	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 085-035-100 AP3N	8.50	10.00	89.00	35.00	47.0	1.300	40.0	M10	●
SCD 086-035-100 AP3N	8.60	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 087-035-100 AP3N	8.70	10.00	89.00	35.00	47.0	1.400	40.0	-	●

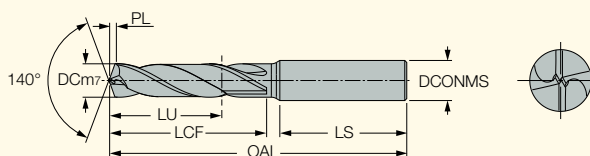
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-AP3N (3xD)
(continued)

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 3xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 088-035-100 AP3N	8.80	10.00	89.00	35.00	47.0	1.400	40.0	-	•
SCD 089-035-100 AP3N	8.90	10.00	89.00	35.00	47.0	1.400	40.0	-	•
SCD 090-035-100 AP3N	9.00	10.00	89.00	35.00	47.0	1.400	40.0	-	•
SCD 091-035-100 AP3N	9.10	10.00	89.00	35.00	47.0	1.400	40.0	-	•
SCD 092-035-100 AP3N	9.20	10.00	89.00	35.00	47.0	1.400	40.0	-	•
SCD 093-035-100 AP3N	9.30	10.00	89.00	35.00	47.0	1.500	40.0	-	•
SCD 094-035-100 AP3N	9.40	10.00	89.00	35.00	47.0	1.500	40.0	-	•
SCD 095-035-100 AP3N	9.50	10.00	89.00	35.00	47.0	1.500	40.0	M11	•
SCD 096-035-100 AP3N	9.60	10.00	89.00	35.00	47.0	1.500	40.0	-	•
SCD 097-035-100 AP3N	9.70	10.00	89.00	35.00	47.0	1.500	40.0	-	•
SCD 098-035-100 AP3N	9.80	10.00	89.00	35.00	47.0	1.600	40.0	-	•
SCD 099-035-100 AP3N	9.90	10.00	89.00	35.00	47.0	1.600	40.0	-	•
SCD 100-035-100 AP3N	10.00	10.00	89.00	35.00	47.0	1.600	40.0	-	•
SCD 101-040-120 AP3N	10.10	12.00	101.00	40.00	55.0	1.600	45.0	-	•
SCD 102-040-120 AP3N	10.20	12.00	101.00	40.00	55.0	1.600	45.0	M12	•
SCD 103-040-120 AP3N	10.30	12.00	101.00	40.00	55.0	1.600	45.0	-	•
SCD 104-040-120 AP3N	10.40	12.00	101.00	40.00	55.0	1.600	45.0	-	•
SCD 105-040-120 AP3N	10.50	12.00	101.00	40.00	55.0	1.600	45.0	-	•
SCD 106-040-120 AP3N	10.60	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 107-040-120 AP3N	10.70	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 108-040-120 AP3N	10.80	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 109-040-120 AP3N	10.90	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 110-040-120 AP3N	11.00	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 111-040-120 AP3N	11.10	12.00	101.00	40.00	55.0	1.700	45.0	-	•
SCD 112-040-120 AP3N	11.20	12.00	101.00	40.00	55.0	1.800	45.0	-	•
SCD 113-040-120 AP3N	11.30	12.00	101.00	40.00	55.0	1.800	45.0	-	•
SCD 114-040-120 AP3N	11.40	12.00	101.00	40.00	55.0	1.800	45.0	-	•
SCD 115-040-120 AP3N	11.50	12.00	101.00	40.00	55.0	1.800	45.0	-	•
SCD 116-040-120 AP3N	11.60	12.00	101.00	40.00	55.0	1.800	45.0	-	•
SCD 117-040-120 AP3N	11.70	12.00	101.00	40.00	55.0	1.900	45.0	-	•
SCD 118-040-120 AP3N	11.80	12.00	101.00	40.00	55.0	1.900	45.0	-	•
SCD 119-040-120 AP3N	11.90	12.00	101.00	40.00	55.0	1.900	45.0	-	•
SCD 120-040-120 AP3N	12.00	12.00	101.00	40.00	55.0	1.900	45.0	M14	•

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

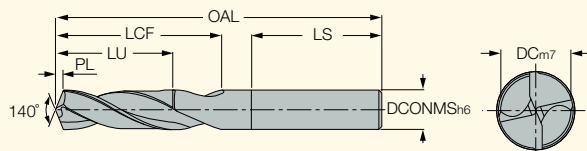
⁽¹⁾ Used for standard thread size



SOLIDDRILL**SCD-AP3 (3xD)**

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 3xD

DC	Tolerance m3
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-18	0.007-0.025
18.01-27	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 121-043-140 AP3	12.10	14.00	43.0	60.0	107.00	45.0	-	2.200	●
SCD 122-043-140 AP3	12.20	14.00	43.0	60.0	107.00	45.0	-	2.220	●
SCD 123-043-140 AP3	12.30	14.00	43.0	60.0	107.00	45.0	-	2.240	●
SCD 124-043-140 AP3	12.40	14.00	43.0	60.0	107.00	45.0	-	2.260	●
SCD 125-043-140 AP3	12.50	14.00	43.0	60.0	107.00	45.0	-	2.270	●
SCD 126-043-140 AP3	12.60	14.00	43.0	60.0	107.00	45.0	-	2.290	●
SCD 127-043-140 AP3	12.70	14.00	43.0	60.0	107.00	45.0	-	2.310	●
SCD 128-043-140 AP3	12.80	14.00	43.0	60.0	107.00	45.0	-	2.330	●
SCD 129-043-140 AP3	12.90	14.00	43.0	60.0	107.00	45.0	-	2.350	●
SCD 130-043-140 AP3	13.00	14.00	43.0	60.0	107.00	45.0	-	2.370	●
SCD 131-043-140 AP3	13.10	14.00	43.0	60.0	107.00	45.0	-	2.380	●
SCD 132-043-140 AP3	13.20	14.00	43.0	60.0	107.00	45.0	-	2.400	●
SCD 133-043-140 AP3	13.30	14.00	43.0	60.0	107.00	45.0	-	2.420	●
SCD 135-043-140 AP3	13.50	14.00	43.0	60.0	107.00	45.0	-	2.460	●
SCD 136-043-140 AP3	13.60	14.00	43.0	60.0	107.00	45.0	-	2.470	●
SCD 137-043-140 AP3	13.70	14.00	43.0	60.0	107.00	45.0	-	2.490	●
SCD 138-043-140 AP3	13.80	14.00	43.0	60.0	107.00	45.0	-	2.510	●
SCD 139-043-140 AP3	13.90	14.00	43.0	60.0	107.00	45.0	-	2.530	●
SCD 140-043-140 AP3	14.00	14.00	43.0	60.0	107.00	45.0	M16	2.550	●
SCD 141-045-160 AP3	14.10	16.00	45.0	65.0	115.00	45.0	-	2.570	●
SCD 142-045-160 AP3	14.20	16.00	45.0	65.0	115.00	45.0	-	2.580	●
SCD 143-045-160 AP3	14.30	16.00	45.0	65.0	115.00	45.0	-	2.600	●
SCD 144-045-160 AP3	14.40	16.00	45.0	65.0	115.00	45.0	-	2.620	●
SCD 145-045-160 AP3	14.50	16.00	45.0	65.0	115.00	45.0	-	2.640	●
SCD 146-045-160 AP3	14.60	16.00	45.0	65.0	115.00	45.0	-	2.660	●
SCD 147-045-160 AP3	14.70	16.00	45.0	65.0	115.00	45.0	-	2.680	●
SCD 148-045-160 AP3	14.80	16.00	45.0	65.0	115.00	45.0	-	2.690	●
SCD 149-045-160 AP3	14.90	16.00	45.0	65.0	115.00	45.0	-	2.710	●
SCD 150-045-160 AP3	15.00	16.00	45.0	65.0	115.00	45.0	-	2.730	●
SCD 151-045-160 AP3	15.10	16.00	45.0	65.0	115.00	45.0	-	2.750	●
SCD 152-045-160 AP3	15.20	16.00	45.0	65.0	115.00	45.0	-	2.770	●
SCD 153-045-160 AP3	15.30	16.00	45.0	65.0	115.00	45.0	-	2.780	●
SCD 154-045-160 AP3	15.40	16.00	45.0	65.0	115.00	45.0	-	2.800	●
SCD 155-045-160 AP3	15.50	16.00	45.0	65.0	115.00	45.0	M18	2.820	●
SCD 156-045-160 AP3	15.60	16.00	45.0	65.0	115.00	45.0	-	2.840	●
SCD 157-045-160 AP3	15.70	16.00	45.0	65.0	115.00	45.0	-	2.860	●
SCD 158-045-160 AP3	15.80	16.00	45.0	65.0	115.00	45.0	-	2.880	●
SCD 159-045-160 AP3	15.90	16.00	45.0	65.0	115.00	45.0	-	2.890	●
SCD 160-045-160 AP3	16.00	16.00	45.0	65.0	115.00	45.0	-	2.910	●
SCD 161-051-180 AP3	16.10	18.00	51.0	73.0	123.00	48.0	-	2.930	●
SCD 162-051-180 AP3	16.20	18.00	51.0	73.0	123.00	48.0	-	2.950	●
SCD 163-051-180 AP3	16.30	18.00	51.0	73.0	123.00	48.0	-	2.970	●
SCD 164-051-180 AP3	16.40	18.00	51.0	73.0	123.00	48.0	-	2.980	●
SCD 165-051-180 AP3	16.50	18.00	51.0	73.0	123.00	48.0	-	3.000	●
SCD 166-051-180 AP3	16.60	18.00	51.0	73.0	123.00	48.0	-	3.020	●
SCD 167-051-180 AP3	16.70	18.00	51.0	73.0	123.00	48.0	-	3.040	●
SCD 168-051-180 AP3	16.80	18.00	51.0	73.0	123.00	48.0	-	3.060	●
SCD 169-051-180 AP3	16.90	18.00	51.0	73.0	123.00	48.0	-	3.080	●
SCD 170-051-180 AP3	17.00	18.00	51.0	73.0	123.00	48.0	-	3.090	●
SCD 171-051-180 AP3	17.10	18.00	51.0	73.0	123.00	48.0	-	3.110	●
SCD 172-051-180 AP3	17.20	18.00	51.0	73.0	123.00	48.0	-	3.130	●
SCD 173-051-180 AP3	17.30	18.00	51.0	73.0	123.00	48.0	-	3.150	●
SCD 174-051-180 AP3	17.40	18.00	51.0	73.0	123.00	48.0	-	3.170	●
SCD 175-051-180 AP3	17.50	18.00	51.0	73.0	123.00	48.0	M20	3.180	●
SCD 176-051-180 AP3	17.60	18.00	51.0	73.0	123.00	48.0	-	3.200	●
SCD 177-051-180 AP3	17.70	18.00	51.0	73.0	123.00	48.0	-	3.220	●
SCD 178-051-180 AP3	17.80	18.00	51.0	73.0	123.00	48.0	-	3.240	●

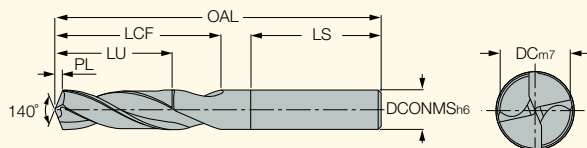
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-AP3 (3xD)
(continued)

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 3xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 179-051-180 AP3	17.90	18.00	51.0	73.0	123.00	48.0	-	3.260	●
SCD 180-051-180 AP3	18.00	18.00	51.0	73.0	123.00	48.0	-	3.280	●
SCD 181-055-200 AP3	18.10	20.00	55.0	79.0	131.00	48.0	-	3.290	●
SCD 182-055-200 AP3	18.20	20.00	55.0	79.0	131.00	48.0	-	3.310	●
SCD 183-055-200 AP3	18.30	20.00	55.0	79.0	131.00	48.0	-	3.330	●
SCD 184-055-200 AP3	18.40	20.00	55.0	79.0	131.00	48.0	-	3.350	●
SCD 185-055-200 AP3	18.50	20.00	55.0	79.0	131.00	48.0	-	3.370	●
SCD 186-055-200 AP3	18.60	20.00	55.0	79.0	131.00	48.0	-	3.380	●
SCD 187-055-200 AP3	18.70	20.00	55.0	79.0	131.00	48.0	-	3.400	●
SCD 188-055-200 AP3	18.80	20.00	55.0	79.0	131.00	48.0	-	3.420	●
SCD 189-055-200 AP3	18.90	20.00	55.0	79.0	131.00	48.0	-	3.440	●
SCD 190-055-200 AP3	19.00	20.00	55.0	79.0	131.00	48.0	-	3.460	●
SCD 191-055-200 AP3	19.10	20.00	55.0	79.0	131.00	48.0	-	3.480	●
SCD 192-055-200 AP3	19.20	20.00	55.0	79.0	131.00	48.0	-	3.490	●
SCD 193-055-200 AP3	19.30	20.00	55.0	79.0	131.00	48.0	-	3.510	●
SCD 194-055-200 AP3	19.40	20.00	55.0	79.0	131.00	48.0	-	3.530	●
SCD 195-055-200 AP3	19.50	20.00	55.0	79.0	131.00	48.0	M22	3.550	●
SCD 197-055-200 AP3	19.70	20.00	55.0	79.0	131.00	48.0	-	3.590	●
SCD 198-055-200 AP3	19.80	20.00	55.0	79.0	131.00	48.0	-	3.600	●
SCD 199-055-200 AP3	19.90	20.00	55.0	79.0	131.00	48.0	-	3.620	●
SCD 200-055-200 AP3	20.00	20.00	55.0	79.0	131.00	48.0	-	3.640	●

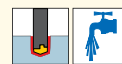
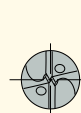
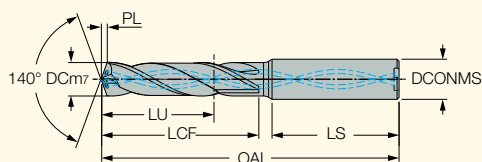
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size



SOLIDDRILL**SCD-ACP3N (3XD)**DIN 6537 Solid Carbide Drills with
Coolant Holes, Drilling Depth 3xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 030-014-060 ACP3N	3.00	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 031-014-060 ACP3N	3.10	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 032-014-060 ACP3N	3.20	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 033-014-060 ACP3N	3.30	6.00	62.00	14.00	20.0	0.500	34.0	M4	●
SCD 034-014-060 ACP3N	3.40	6.00	62.00	14.00	20.0	0.500	34.0	-	●
SCD 035-014-060 ACP3N	3.50	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 036-014-060 ACP3N	3.60	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 037-014-060 ACP3N	3.70	6.00	62.00	14.00	20.0	0.600	34.0	-	●
SCD 038-017-060 ACP3N	3.80	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 039-017-060 ACP3N	3.90	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 040-017-060 ACP3N	4.00	6.00	66.00	17.00	24.0	0.600	35.0	-	●
SCD 041-017-060 ACP3N	4.10	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 042-017-060 ACP3N	4.20	6.00	66.00	17.00	24.0	0.700	35.0	M5	●
SCD 043-017-060 ACP3N	4.30	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 044-017-060 ACP3N	4.40	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 045-017-060 ACP3N	4.50	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 046-017-060 ACP3N	4.60	6.00	66.00	17.00	24.0	0.700	35.0	-	●
SCD 047-017-060 ACP3N	4.70	6.00	66.00	17.00	24.0	0.800	35.0	-	●
SCD 048-020-060 ACP3N	4.80	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 049-020-060 ACP3N	4.90	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 050-020-060 ACP3N	5.00	6.00	66.00	20.00	28.0	0.800	36.0	M6	●
SCD 051-020-060 ACP3N	5.10	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 052-020-060 ACP3N	5.20	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 053-020-060 ACP3N	5.30	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 054-020-060 ACP3N	5.40	6.00	66.00	20.00	28.0	0.800	36.0	-	●
SCD 055-020-060 ACP3N	5.50	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 056-020-060 ACP3N	5.60	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 057-020-060 ACP3N	5.70	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 058-020-060 ACP3N	5.80	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 059-020-060 ACP3N	5.90	6.00	66.00	20.00	28.0	0.900	36.0	-	●
SCD 060-020-060 ACP3N	6.00	6.00	66.00	20.00	28.0	0.900	36.0	M7	●
SCD 061-024-080 ACP3N	6.10	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 062-024-080 ACP3N	6.20	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 063-024-080 ACP3N	6.30	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 064-024-080 ACP3N	6.40	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 065-024-080 ACP3N	6.50	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 066-024-080 ACP3N	6.60	8.00	79.00	24.00	34.0	1.000	36.0	-	●
SCD 067-024-080 ACP3N	6.70	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 068-024-080 ACP3N	6.80	8.00	79.00	24.00	34.0	1.100	36.0	M8	●
SCD 069-024-080 ACP3N	6.90	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 070-024-080 ACP3N	7.00	8.00	79.00	24.00	34.0	1.100	36.0	-	●
SCD 071-029-080 ACP3N	7.10	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 072-029-080 ACP3N	7.20	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 073-029-080 ACP3N	7.30	8.00	79.00	29.00	41.0	1.100	36.0	-	●
SCD 074-029-080 ACP3N	7.40	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 075-029-080 ACP3N	7.50	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 076-029-080 ACP3N	7.60	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 077-029-080 ACP3N	7.70	8.00	79.00	29.00	41.0	1.200	36.0	-	●
SCD 078-029-080 ACP3N	7.80	8.00	79.00	29.00	41.0	1.200	36.0	M9	●
SCD 079-029-080 ACP3N	7.90	8.00	79.00	29.00	41.0	1.300	36.0	-	●
SCD 080-029-080 ACP3N	8.00	8.00	79.00	29.00	41.0	1.300	36.0	-	●
SCD 081-035-100 ACP3N	8.10	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 082-035-100 ACP3N	8.20	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 083-035-100 ACP3N	8.30	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 084-035-100 ACP3N	8.40	10.00	89.00	35.00	47.0	1.300	40.0	-	●
SCD 085-035-100 ACP3N	8.50	10.00	89.00	35.00	47.0	1.300	40.0	M10	●
SCD 086-035-100 ACP3N	8.60	10.00	89.00	35.00	47.0	1.400	40.0	-	●

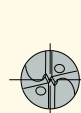
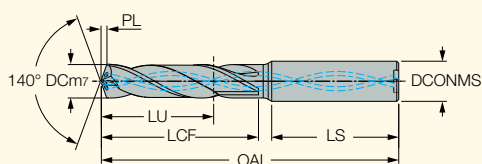
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-ACP3N (3XD)
(continued)

DIN 6537 Solid Carbide Drills with
Coolant Holes, Drilling Depth 3xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 087-035-100 ACP3N	8.70	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 088-035-100 ACP3N	8.80	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 089-035-100 ACP3N	8.90	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 090-035-100 ACP3N	9.00	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 091-035-100 ACP3N	9.10	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 092-035-100 ACP3N	9.20	10.00	89.00	35.00	47.0	1.400	40.0	-	●
SCD 093-035-100 ACP3N	9.30	10.00	89.00	35.00	47.0	1.500	40.0	-	●
SCD 094-035-100 ACP3N	9.40	10.00	89.00	35.00	47.0	1.500	40.0	-	●
SCD 095-035-100 ACP3N	9.50	10.00	89.00	35.00	47.0	1.500	40.0	M11	●
SCD 096-035-100 ACP3N	9.60	10.00	89.00	35.00	47.0	1.500	40.0	-	●
SCD 097-035-100 ACP3N	9.70	10.00	89.00	35.00	47.0	1.500	40.0	-	●
SCD 098-035-100 ACP3N	9.80	10.00	89.00	35.00	47.0	1.600	40.0	-	●
SCD 099-035-100 ACP3N	9.90	10.00	89.00	35.00	47.0	1.600	40.0	-	●
SCD 100-035-100 ACP3N	10.00	10.00	89.00	35.00	47.0	1.600	40.0	-	●
SCD 101-040-120 ACP3N	10.10	12.00	102.00	40.00	55.0	1.600	45.0	-	●
SCD 102-040-120 ACP3N	10.20	12.00	102.00	40.00	55.0	1.600	45.0	M12	●
SCD 103-040-120 ACP3N	10.30	12.00	102.00	40.00	55.0	1.600	45.0	-	●
SCD 104-040-120 ACP3N	10.40	12.00	102.00	40.00	55.0	1.600	45.0	-	●
SCD 105-040-120 ACP3N	10.50	12.00	102.00	40.00	55.0	1.600	45.0	-	●
SCD 106-040-120 ACP3N	10.60	12.00	102.00	40.00	55.0	1.700	45.0	-	●
SCD 108-040-120 ACP3N	10.80	12.00	102.00	40.00	55.0	1.700	45.0	-	●
SCD 109-040-120 ACP3N	10.90	12.00	102.00	40.00	55.0	1.700	45.0	-	●
SCD 110-040-120 ACP3N	11.00	12.00	102.00	40.00	55.0	1.700	45.0	-	●
SCD 111-040-120 ACP3N	11.10	12.00	102.00	40.00	55.0	1.700	45.0	-	●
SCD 112-040-120 ACP3N	11.20	12.00	102.00	40.00	55.0	1.800	45.0	-	●
SCD 113-040-120 ACP3N	11.30	12.00	102.00	40.00	55.0	1.800	45.0	-	●
SCD 114-040-120 ACP3N	11.40	12.00	102.00	40.00	55.0	1.800	45.0	-	●
SCD 115-040-120 ACP3N	11.50	12.00	102.00	40.00	55.0	1.800	45.0	-	●
SCD 116-040-120 ACP3N	11.60	12.00	102.00	40.00	55.0	1.800	45.0	-	●
SCD 117-040-120 ACP3N	11.70	12.00	102.00	40.00	55.0	1.900	45.0	-	●
SCD 118-040-120 ACP3N	11.80	12.00	102.00	40.00	55.0	1.900	45.0	-	●
SCD 119-040-120 ACP3N	11.90	12.00	102.00	40.00	55.0	1.900	45.0	-	●
SCD 120-040-120 ACP3N	12.00	12.00	102.00	40.00	55.0	1.900	45.0	M14	●

- For user guide and cutting conditions, see pages 175-184

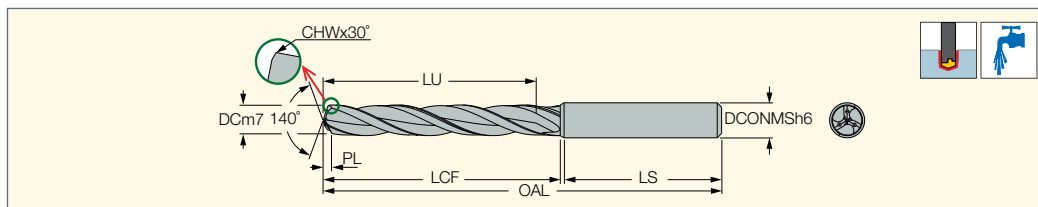
- For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size



SOLIDDRILL**SCCD-ACP3**

Three Flute Solid Carbide
Drills with Coolant Holes,
Drilling Depth 3xD



Designation	Dimensions										IC908
	DC	DCONMS	LU	LCF	OAL	LS	PL	KCH	CHW	FTDZ ⁽¹⁾	
SCCD 040-017-060 ACP3	4.00	6.00	17.0	25.0	66.00	35.0	0.820	30.0	0.30		●
SCCD 045-017-060 ACP3	4.50	6.00	17.0	25.0	66.00	35.0	0.880	30.0	0.30		●
SCCD 050-020-060 ACP3	5.00	6.00	20.0	29.0	66.00	36.0	0.960	30.0	0.30	M6	●
SCCD 051-020-060 ACP3	5.10	6.00	20.0	29.0	66.00	36.0	0.980	30.0	0.30	M7	●
SCCD 055-020-060 ACP3	5.50	6.00	20.0	29.0	66.00	36.0	1.080	30.0	0.40		●
SCCD 060-020-060 ACP3	6.00	6.00	20.0	29.0	66.00	36.0	1.170	30.0	0.40		●
SCCD 065-024-080 ACP3	6.50	8.00	24.0	35.0	79.00	36.0	1.260	30.0	0.40		●
SCCD 068-024-080 ACP3	6.80	8.00	24.0	35.0	79.00	36.0	1.310	30.0	0.40	M8	●
SCCD 070-024-080 ACP3	7.00	8.00	24.0	35.0	79.00	36.0	1.350	30.0	0.40		●
SCCD 075-029-080 ACP3	7.50	8.00	29.0	42.0	79.00	36.0	1.400	30.0	0.40		●
SCCD 080-029-080 ACP3	8.00	8.00	29.0	42.0	79.00	36.0	1.490	30.0	0.40		●
SCCD 085-035-100 ACP3	8.50	10.00	35.0	48.0	89.00	40.0	1.630	30.0	0.50	M10	●
SCCD 086-035-100 ACP3	8.60	10.00	35.0	48.0	89.00	40.0	1.650	30.0	0.50		●
SCCD 090-035-100 ACP3	9.00	10.00	35.0	48.0	89.00	40.0	1.720	30.0	0.50		●
SCCD 095-035-100 ACP3	9.50	10.00	35.0	48.0	89.00	40.0	1.750	30.0	0.50	M11	●
SCCD 100-035-100 ACP3	10.00	10.00	35.0	48.0	89.00	40.0	1.850	30.0	0.50		●
SCCD 103-040-120 ACP3	10.30	12.00	40.0	55.0	102.00	45.0	1.940	30.0	0.60		●
SCCD 105-040-120 ACP3	10.50	12.00	40.0	55.0	102.00	45.0	1.980	30.0	0.60		●
SCCD 110-040-120 ACP3	11.00	12.00	40.0	55.0	102.00	45.0	2.070	30.0	0.60		●
SCCD 115-040-120 ACP3	11.50	12.00	40.0	56.0	102.00	45.0	2.120	30.0	0.60		●
SCCD 120-040-120 ACP3	12.00	12.00	40.0	56.0	102.00	45.0	2.210	30.0	0.60	M14	●

• For user guide, see pages 175-184 • For regrinding instructions, see page 182

(1) Used for standard thread size

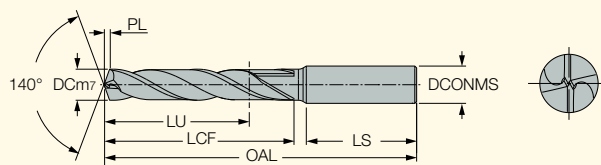
Recommended Machining Conditions for SCCD-ACP Solid Carbide Drills

ISO	Material No.	Material	Material Condition	Cutting Speed V _c , m/min	Cutting Diameter				
					Feed f, mm/rev				
					Ø4-Ø5	Ø5.1-Ø6	Ø6.1-Ø8	Ø8.1-Ø10	Ø10.1-Ø12
P	1	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	0.15-0.25	0.20-0.35	0.25-0.45	0.30-0.55	0.35-0.60
	2		>= 0.25 %C	Annealed					
	3		< 0.55 %C	Quenched and tempered					
	4		>= 0.55 %C	Annealed					
	5			Quenched and tempered					
	6	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	0.15-0.20	0.20-0.30	0.25-0.35	0.30-0.45	0.35-0.50
	7								
	8		Quenched and tempered	70-110					
	9			50-90					
	10	High alloyed steel, cast steel, and tool steel	Annealed	40-70					
	11		Quenched and tempered	50-90					
K	15	Grey cast iron	Ferritic/pearlitic	80-140	0.20-0.30	0.25-0.45	0.35-0.55	0.40-0.60	0.45-0.65
	16		Pearlitic	70-120					
	17	Nodular cast iron	Ferritic	80-120		0.20-0.40	0.30-0.50	0.35-0.55	0.40-0.60
	18		Pearlitic	70-110					
	19	Malleable cast iron	Ferritic	80-120					
	20		Pearlitic	70-110					

SCD-AP5N (5xD)

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 030-023-060 AP5N	3.00	6.00	66.00	23.00	28.0	0.500	34.0	-	●
SCD 031-023-060 AP5N	3.10	6.00	66.00	23.00	28.0	0.500	34.0	-	●
SCD 032-023-060 AP5N	3.20	6.00	66.00	23.00	28.0	0.500	34.0	-	●
SCD 033-023-060 AP5N	3.30	6.00	66.00	23.00	28.0	0.500	34.0	M4	●
SCD 034-023-060 AP5N	3.40	6.00	66.00	23.00	28.0	0.500	34.0	-	●
SCD 035-023-060 AP5N	3.50	6.00	66.00	23.00	28.0	0.600	34.0	-	●
SCD 036-023-060 AP5N	3.60	6.00	66.00	23.00	28.0	0.600	34.0	-	●
SCD 037-023-060 AP5N	3.70	6.00	66.00	23.00	28.0	0.600	34.0	-	●
SCD 038-029-060 AP5N	3.80	6.00	74.00	29.00	36.0	0.600	35.0	-	●
SCD 039-029-060 AP5N	3.90	6.00	74.00	29.00	36.0	0.600	35.0	-	●
SCD 040-029-060 AP5N	4.00	6.00	74.00	29.00	36.0	0.600	35.0	-	●
SCD 041-029-060 AP5N	4.10	6.00	74.00	29.00	36.0	0.700	35.0	-	●
SCD 042-029-060 AP5N	4.20	6.00	74.00	29.00	36.0	0.700	35.0	M5	●
SCD 043-029-060 AP5N	4.30	6.00	74.00	29.00	36.0	0.700	35.0	-	●
SCD 044-029-060 AP5N	4.40	6.00	74.00	29.00	36.0	0.700	35.0	-	●
SCD 045-029-060 AP5N	4.50	6.00	74.00	29.00	36.0	0.700	35.0	-	●
SCD 046-029-060 AP5N	4.60	6.00	74.00	29.00	36.0	0.700	35.0	-	●
SCD 047-029-060 AP5N	4.70	6.00	74.00	29.00	36.0	0.800	35.0	-	●
SCD 048-035-060 AP5N	4.80	6.00	74.00	35.00	44.0	0.800	36.0	-	●
SCD 049-035-060 AP5N	4.90	6.00	82.00	35.00	44.0	0.800	36.0	-	●
SCD 050-035-060 AP5N	5.00	6.00	82.00	35.00	44.0	0.800	36.0	M6	●
SCD 051-035-060 AP5N	5.10	6.00	82.00	35.00	44.0	0.800	36.0	-	●
SCD 052-035-060 AP5N	5.20	6.00	82.00	35.00	44.0	0.800	36.0	-	●
SCD 053-035-060 AP5N	5.30	6.00	82.00	35.00	44.0	0.800	36.0	-	●
SCD 054-035-060 AP5N	5.40	6.00	82.00	35.00	44.0	0.800	36.0	-	●
SCD 055-035-060 AP5N	5.50	6.00	82.00	35.00	44.0	0.900	36.0	-	●
SCD 056-035-060 AP5N	5.60	6.00	82.00	35.00	44.0	0.900	36.0	-	●
SCD 057-035-060 AP5N	5.70	6.00	82.00	35.00	44.0	0.900	36.0	-	●
SCD 058-035-060 AP5N	5.80	6.00	82.00	35.00	44.0	0.900	36.0	-	●
SCD 059-035-060 AP5N	5.90	6.00	82.00	35.00	44.0	0.900	36.0	-	●
SCD 060-035-060 AP5N	6.00	6.00	82.00	35.00	44.0	0.900	36.0	M7	●
SCD 061-043-080 AP5N	6.10	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 062-043-080 AP5N	6.20	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 063-043-080 AP5N	6.30	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 064-043-080 AP5N	6.40	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 065-043-080 AP5N	6.50	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 066-043-080 AP5N	6.60	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 067-043-080 AP5N	6.70	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 068-043-080 AP5N	6.80	8.00	91.00	43.00	53.0	1.100	36.0	M8	●
SCD 069-043-080 AP5N	6.90	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 070-043-080 AP5N	7.00	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 071-043-080 AP5N	7.10	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 072-043-080 AP5N	7.20	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 073-043-080 AP5N	7.30	8.00	91.00	43.00	53.0	1.100	36.0	-	●
SCD 074-043-080 AP5N	7.40	8.00	91.00	43.00	53.0	1.200	36.0	-	●
SCD 075-043-080 AP5N	7.50	8.00	91.00	43.00	53.0	1.200	36.0	-	●
SCD 076-043-080 AP5N	7.60	8.00	91.00	43.00	53.0	1.200	36.0	-	●
SCD 077-043-080 AP5N	7.70	8.00	91.00	43.00	53.0	1.200	36.0	-	●
SCD 078-043-080 AP5N	7.80	8.00	91.00	43.00	53.0	1.200	36.0	M9	●
SCD 079-043-080 AP5N	7.90	8.00	91.00	43.00	53.0	1.300	36.0	-	●
SCD 080-043-080 AP5N	8.00	8.00	91.00	43.00	53.0	1.300	36.0	-	●
SCD 081-049-100 AP5N	8.10	10.00	103.00	49.00	61.0	1.300	40.0	-	●
SCD 082-049-100 AP5N	8.20	10.00	103.00	49.00	61.0	1.300	40.0	-	●
SCD 083-049-100 AP5N	8.30	10.00	103.00	49.00	61.0	1.300	40.0	-	●
SCD 084-049-100 AP5N	8.40	10.00	103.00	49.00	61.0	1.300	40.0	-	●
SCD 085-049-100 AP5N	8.50	10.00	103.00	49.00	61.0	1.300	40.0	M10	●
SCD 086-049-100 AP5N	8.60	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 087-049-100 AP5N	8.70	10.00	103.00	49.00	61.0	1.400	40.0	-	●

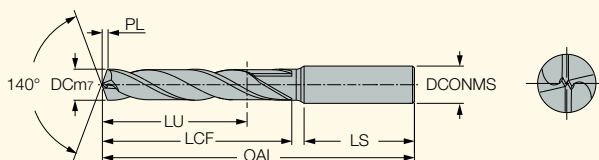
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL**SCD-AP5N (5xD)****(continued)**

DIN 6537 Solid Carbide
Drills without Coolant Holes,
Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 088-049-100 AP5N	8.80	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 089-049-100 AP5N	8.90	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 090-049-100 AP5N	9.00	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 091-049-100 AP5N	9.10	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 092-049-100 AP5N	9.20	10.00	103.00	49.00	61.0	1.400	40.0	-	●
SCD 093-049-100 AP5N	9.30	10.00	103.00	49.00	61.0	1.500	40.0	-	●
SCD 094-049-100 AP5N	9.40	10.00	103.00	49.00	61.0	1.500	40.0	-	●
SCD 095-049-100 AP5N	9.50	10.00	103.00	49.00	61.0	1.500	40.0	M11	●
SCD 096-049-100 AP5N	9.60	10.00	103.00	49.00	61.0	1.500	40.0	-	●
SCD 097-049-100 AP5N	9.70	10.00	103.00	49.00	61.0	1.500	40.0	-	●
SCD 098-049-100 AP5N	9.80	10.00	103.00	49.00	61.0	1.600	40.0	-	●
SCD 099-049-100 AP5N	9.90	10.00	103.00	49.00	61.0	1.600	40.0	-	●
SCD 100-049-100 AP5N	10.00	10.00	103.00	49.00	61.0	1.600	40.0	-	●
SCD 101-056-120 AP5N	10.10	12.00	118.00	56.00	71.0	1.600	45.0	-	●
SCD 102-056-120 AP5N	10.20	12.00	118.00	56.00	71.0	1.600	45.0	M12	●
SCD 103-056-120 AP5N	10.30	12.00	118.00	56.00	71.0	1.600	45.0	-	●
SCD 104-056-120 AP5N	10.40	12.00	118.00	56.00	71.0	1.600	45.0	-	●
SCD 105-056-120 AP5N	10.50	12.00	118.00	56.00	71.0	1.600	45.0	-	●
SCD 106-056-120 AP5N	10.60	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 107-056-120 AP5N	10.70	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 108-056-120 AP5N	10.80	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 109-056-120 AP5N	10.90	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 110-056-120 AP5N	11.00	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 111-056-120 AP5N	11.10	12.00	118.00	56.00	71.0	1.700	45.0	-	●
SCD 112-056-120 AP5N	11.20	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 113-056-120 AP5N	11.30	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 114-056-120 AP5N	11.40	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 115-056-120 AP5N	11.50	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 116-056-120 AP5N	11.60	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 117-056-120 AP5N	11.70	12.00	118.00	56.00	71.0	1.900	45.0	-	●
SCD 118-056-120 AP5N	11.80	12.00	118.00	56.00	71.0	1.900	45.0	-	●
SCD 119-056-120 AP5N	11.90	12.00	118.00	56.00	71.0	1.900	45.0	-	●
SCD 120-056-120 AP5N	12.00	12.00	118.00	56.00	71.0	1.900	45.0	M14	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

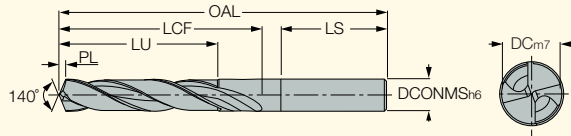
⁽¹⁾ Used for standard thread size



SCD-AP5 (5xD)

Solid Carbide Drills without
Coolant Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



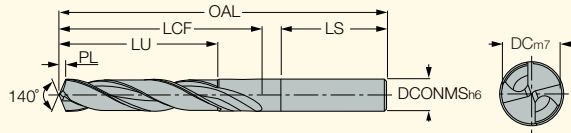
Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 121-060-140 AP5	12.10	14.00	60.0	77.0	124.00	45.0	-	2.200	●
SCD 122-060-140 AP5	12.20	14.00	60.0	77.0	124.00	45.0	-	2.220	●
SCD 124-060-140 AP5	12.40	14.00	60.0	77.0	124.00	45.0	-	2.260	●
SCD 125-060-140 AP5	12.50	14.00	60.0	77.0	124.00	45.0	-	2.270	●
SCD 127-060-140 AP5	12.70	14.00	60.0	77.0	124.00	45.0	-	2.310	●
SCD 128-060-140 AP5	12.80	14.00	60.0	77.0	124.00	45.0	-	2.330	●
SCD 130-060-140 AP5	13.00	14.00	60.0	77.0	124.00	45.0	-	2.370	●
SCD 131-060-140 AP5	13.10	14.00	60.0	77.0	124.00	45.0	-	2.380	●
SCD 132-060-140 AP5	13.20	14.00	60.0	77.0	124.00	45.0	-	2.400	●
SCD 133-060-140 AP5	13.30	14.00	60.0	77.0	124.00	45.0	-	2.420	●
SCD 135-060-140 AP5	13.50	14.00	60.0	77.0	124.00	45.0	-	2.460	●
SCD 136-060-140 AP5	13.60	14.00	60.0	77.0	124.00	45.0	-	2.470	●
SCD 137-060-140 AP5	13.70	14.00	60.0	77.0	124.00	45.0	-	2.490	●
SCD 138-060-140 AP5	13.80	14.00	60.0	77.0	124.00	45.0	-	2.510	●
SCD 139-060-140 AP5	13.90	14.00	60.0	77.0	124.00	45.0	-	2.530	●
SCD 140-060-140 AP5	14.00	14.00	60.0	77.0	124.00	45.0	M16	2.550	●
SCD 141-063-160 AP5	14.10	16.00	63.0	83.0	133.00	45.0	-	2.570	●
SCD 142-063-160 AP5	14.20	16.00	63.0	83.0	133.00	45.0	-	2.580	●
SCD 143-063-160 AP5	14.30	16.00	63.0	83.0	133.00	45.0	-	2.600	●
SCD 145-063-160 AP5	14.50	16.00	63.0	83.0	133.00	45.0	-	2.640	●
SCD 146-063-160 AP5	14.60	16.00	63.0	83.0	133.00	45.0	-	2.660	●
SCD 147-063-160 AP5	14.70	16.00	63.0	83.0	133.00	45.0	-	2.680	●
SCD 148-063-160 AP5	14.80	16.00	63.0	83.0	133.00	45.0	-	2.690	●
SCD 149-063-160 AP5	14.90	16.00	63.0	83.0	133.00	45.0	-	2.710	●
SCD 150-063-160 AP5	15.00	16.00	63.0	83.0	133.00	45.0	-	2.730	●
SCD 151-063-160 AP5	15.10	16.00	63.0	83.0	133.00	45.0	-	2.750	●
SCD 152-063-160 AP5	15.20	16.00	63.0	83.0	133.00	45.0	-	2.770	●
SCD 153-063-160 AP5	15.30	16.00	63.0	83.0	133.00	45.0	-	2.780	●
SCD 155-063-160 AP5	15.50	16.00	63.0	83.0	133.00	45.0	M18	2.820	●
SCD 157-063-160 AP5	15.70	16.00	63.0	83.0	133.00	45.0	-	2.860	●
SCD 158-063-160 AP5	15.80	16.00	63.0	83.0	133.00	45.0	-	2.880	●
SCD 159-063-160 AP5	15.90	16.00	63.0	83.0	133.00	45.0	-	2.890	●
SCD 160-063-160 AP5	16.00	16.00	63.0	83.0	133.00	45.0	-	2.910	●
SCD 161-071-180 AP5	16.10	18.00	71.0	93.0	143.00	48.0	-	2.930	●
SCD 164-071-180 AP5	16.40	18.00	71.0	93.0	143.00	48.0	-	2.980	●
SCD 165-071-180 AP5	16.50	18.00	71.0	93.0	143.00	48.0	-	3.000	●
SCD 166-071-180 AP5	16.60	18.00	71.0	93.0	143.00	48.0	-	3.020	●
SCD 167-071-180 AP5	16.70	18.00	71.0	93.0	143.00	48.0	-	3.040	●
SCD 168-071-180 AP5	16.80	18.00	71.0	93.0	143.00	48.0	-	3.060	●
SCD 169-071-180 AP5	16.90	18.00	71.0	93.0	143.00	48.0	-	3.080	●
SCD 170-071-180 AP5	17.00	18.00	71.0	93.0	143.00	48.0	-	3.090	●
SCD 171-071-180 AP5	17.10	18.00	71.0	93.0	143.00	48.0	-	3.110	●
SCD 172-071-180 AP5	17.20	18.00	71.0	93.0	143.00	48.0	-	3.130	●
SCD 173-071-180 AP5	17.30	18.00	71.0	93.0	143.00	48.0	-	3.150	●
SCD 174-071-180 AP5	17.40	18.00	71.0	93.0	143.00	48.0	-	3.170	●
SCD 175-071-180 AP5	17.50	18.00	71.0	93.0	143.00	48.0	M20	3.180	●
SCD 176-071-180 AP5	17.60	18.00	71.0	93.0	143.00	48.0	-	3.200	●
SCD 177-071-180 AP5	17.70	18.00	71.0	93.0	143.00	48.0	-	3.220	●
SCD 178-071-180 AP5	17.80	18.00	71.0	93.0	143.00	48.0	-	3.240	●
SCD 179-071-180 AP5	17.90	18.00	71.0	93.0	143.00	48.0	-	3.260	●
SCD 180-071-180 AP5	18.00	18.00	71.0	93.0	143.00	48.0	-	3.280	●
SCD 182-077-200 AP5	18.20	20.00	77.0	101.0	153.00	48.0	-	3.310	●
SCD 183-077-200 AP5	18.30	20.00	77.0	101.0	153.00	48.0	-	3.330	●
SCD 184-077-200 AP5	18.40	20.00	77.0	101.0	153.00	48.0	-	3.350	●
SCD 185-077-200 AP5	18.50	20.00	77.0	101.0	153.00	48.0	-	3.370	●
SCD 186-077-200 AP5	18.60	20.00	77.0	101.0	153.00	48.0	-	3.380	●
SCD 187-077-200 AP5	18.70	20.00	77.0	101.0	153.00	48.0	-	3.400	●
SCD 188-077-200 AP5	18.80	20.00	77.0	101.0	153.00	48.0	-	3.420	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL**SCD-AP5 (5xD)****(continued)**Solid Carbide Drills without
Coolant Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029

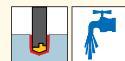
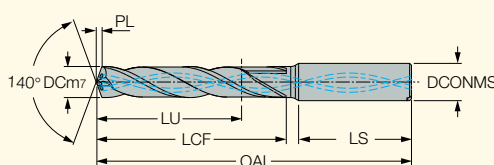


Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 189-077-200 AP5	18.90	20.00	77.0	101.0	153.00	48.0	-	3.440	●
SCD 190-077-200 AP5	19.00	20.00	77.0	101.0	153.00	48.0	-	3.460	●
SCD 191-077-200 AP5	19.10	20.00	77.0	101.0	153.00	48.0	-	3.480	●
SCD 192-077-200 AP5	19.20	20.00	77.0	101.0	153.00	48.0	-	3.490	●
SCD 193-077-200 AP5	19.30	20.00	77.0	101.0	153.00	48.0	-	3.510	●
SCD 194-077-200 AP5	19.40	20.00	77.0	101.0	153.00	48.0	-	3.530	●
SCD 195-077-200 AP5	19.50	20.00	77.0	101.0	153.00	48.0	M22	3.550	●
SCD 196-077-200 AP5	19.60	20.00	77.0	101.0	153.00	48.0	-	3.570	●
SCD 197-077-200 AP5	19.70	20.00	77.0	101.0	153.00	48.0	-	3.590	●
SCD 198-077-200 AP5	19.80	20.00	77.0	101.0	153.00	48.0	-	3.600	●
SCD 199-077-200 AP5	19.90	20.00	77.0	101.0	153.00	48.0	-	3.620	●
SCD 200-077-200 AP5	20.00	20.00	77.0	101.0	153.00	48.0	-	3.640	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size**SOLIDDRILL****SCD-ACP5N (5xD)**DIN 6537 Solid Carbide Drills with
Coolant Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 030-023-060 ACP5N	3.00	6.00	66.00	23.00	28.0	0.550	34.0	-	●
SCD 031-023-060 ACP5N	3.10	6.00	66.00	23.00	28.0	0.560	34.0	-	●
SCD 032-023-060 ACP5N	3.20	6.00	66.00	23.00	28.0	0.580	34.0	-	●
SCD 033-023-060 ACP5N	3.30	6.00	66.00	23.00	28.0	0.600	34.0	M4	●
SCD 034-023-060 ACP5N	3.40	6.00	66.00	23.00	28.0	0.620	34.0	-	●
SCD 035-023-060 ACP5N	3.50	6.00	66.00	23.00	28.0	0.640	34.0	-	●
SCD 036-023-060 ACP5N	3.60	6.00	66.00	23.00	28.0	0.660	34.0	-	●
SCD 037-023-060 ACP5N	3.70	6.00	66.00	23.00	28.0	0.670	34.0	-	●
SCD 038-029-060 ACP5N	3.80	6.00	74.00	29.00	36.0	0.690	35.0	-	●
SCD 039-029-060 ACP5N	3.90	6.00	74.00	29.00	36.0	0.710	35.0	-	●
SCD 040-029-060 ACP5N	4.00	6.00	74.00	29.00	36.0	0.730	35.0	-	●
SCD 041-029-060 ACP5N	4.10	6.00	74.00	29.00	36.0	0.750	35.0	-	●
SCD 042-029-060 ACP5N	4.20	6.00	74.00	29.00	36.0	0.760	35.0	M5	●
SCD 043-029-060 ACP5N	4.30	6.00	74.00	29.00	36.0	0.780	35.0	-	●
SCD 044-029-060 ACP5N	4.40	6.00	74.00	29.00	36.0	0.800	35.0	-	●
SCD 045-029-060 ACP5N	4.50	6.00	74.00	29.00	36.0	0.820	35.0	-	●
SCD 046-029-060 ACP5N	4.60	6.00	74.00	29.00	36.0	0.840	35.0	-	●
SCD 047-029-060 ACP5N	4.70	6.00	74.00	29.00	36.0	0.860	35.0	-	●
SCD 048-035-060 ACP5N	4.80	6.00	82.00	35.00	44.0	0.870	36.0	-	●
SCD 049-035-060 ACP5N	4.90	6.00	82.00	35.00	44.0	0.890	36.0	-	●
SCD 050-035-060 ACP5N	5.00	6.00	82.00	35.00	44.0	0.910	36.0	M6	●
SCD 051-035-060 ACP5N	5.10	6.00	82.00	35.00	44.0	0.930	36.0	-	●
SCD 052-035-060 ACP5N	5.20	6.00	82.00	35.00	44.0	0.950	36.0	-	●
SCD 053-035-060 ACP5N	5.30	6.00	82.00	35.00	44.0	0.960	36.0	-	●
SCD 054-035-060 ACP5N	5.40	6.00	82.00	35.00	44.0	0.980	36.0	-	●
SCD 055-035-060 ACP5N	5.50	6.00	82.00	35.00	44.0	1.000	36.0	-	●
SCD 056-035-060 ACP5N	5.60	6.00	82.00	35.00	44.0	1.020	36.0	-	●
SCD 057-035-060 ACP5N	5.70	6.00	82.00	35.00	44.0	1.040	36.0	-	●
SCD 058-035-060 ACP5N	5.80	6.00	82.00	35.00	44.0	1.060	36.0	-	●
SCD 059-035-060 ACP5N	5.90	6.00	82.00	35.00	44.0	1.070	36.0	-	●

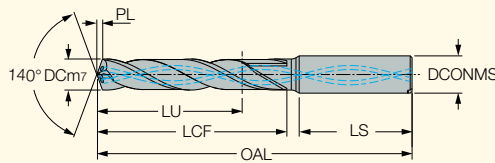
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-ACP5N (5xD)
(continued)

 DIN 6537 Solid Carbide Drills with
Coolant Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



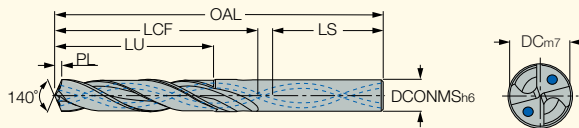
Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	PL	LS	FTDZ ⁽¹⁾	
SCD 060-035-060 ACP5N	6.00	6.00	82.00	35.00	44.0	1.090	36.0	M7	●
SCD 061-043-080 ACP5N	6.10	8.00	91.00	43.00	53.0	1.110	36.0	-	●
SCD 062-043-080 ACP5N	6.20	8.00	91.00	43.00	53.0	1.130	36.0	-	●
SCD 063-043-080 ACP5N	6.30	8.00	91.00	43.00	53.0	1.150	36.0	-	●
SCD 064-043-080 ACP5N	6.40	8.00	91.00	43.00	53.0	1.160	36.0	-	●
SCD 065-043-080 ACP5N	6.50	8.00	91.00	43.00	53.0	1.000	36.0	-	●
SCD 066-043-080 ACP5N	6.60	8.00	91.00	43.00	53.0	1.200	36.0	-	●
SCD 067-043-080 ACP5N	6.70	8.00	91.00	43.00	53.0	1.220	36.0	-	●
SCD 068-043-080 ACP5N	6.80	8.00	91.00	43.00	53.0	1.240	36.0	M8	●
SCD 069-043-080 ACP5N	6.90	8.00	91.00	43.00	53.0	1.260	36.0	-	●
SCD 070-043-080 ACP5N	7.00	8.00	91.00	43.00	53.0	1.270	36.0	-	●
SCD 071-043-080 ACP5N	7.10	8.00	91.00	43.00	53.0	1.290	36.0	-	●
SCD 072-043-080 ACP5N	7.20	8.00	91.00	43.00	53.0	1.310	36.0	-	●
SCD 073-043-080 ACP5N	7.30	8.00	91.00	43.00	53.0	1.330	36.0	-	●
SCD 074-043-080 ACP5N	7.40	8.00	91.00	43.00	53.0	1.350	36.0	-	●
SCD 075-043-080 ACP5N	7.50	8.00	91.00	43.00	53.0	1.360	36.0	-	●
SCD 076-043-080 ACP5N	7.60	8.00	91.00	43.00	53.0	1.380	36.0	-	●
SCD 077-043-080 ACP5N	7.70	8.00	91.00	43.00	53.0	1.400	36.0	-	●
SCD 078-043-080 ACP5N	7.80	8.00	91.00	43.00	53.0	1.420	36.0	M9	●
SCD 079-043-080 ACP5N	7.90	8.00	91.00	43.00	53.0	1.300	36.0	-	●
SCD 080-043-080 ACP5N	8.00	8.00	91.00	43.00	53.0	1.460	36.0	-	●
SCD 081-049-100 ACP5N	8.10	10.00	103.00	49.00	61.0	1.470	40.0	-	●
SCD 082-049-100 ACP5N	8.20	10.00	103.00	49.00	61.0	1.490	40.0	-	●
SCD 083-049-100 ACP5N	8.30	10.00	103.00	49.00	61.0	1.510	40.0	-	●
SCD 084-049-100 ACP5N	8.40	10.00	103.00	49.00	61.0	1.530	40.0	-	●
SCD 085-049-100 ACP5N	8.50	10.00	103.00	49.00	61.0	1.550	40.0	M10	●
SCD 086-049-100 ACP5N	8.60	10.00	103.00	49.00	61.0	1.570	40.0	-	●
SCD 087-049-100 ACP5N	8.70	10.00	103.00	49.00	61.0	1.580	40.0	-	●
SCD 088-049-100 ACP5N	8.80	10.00	103.00	49.00	61.0	1.600	40.0	-	●
SCD 089-049-100 ACP5N	8.90	10.00	103.00	49.00	61.0	1.620	40.0	-	●
SCD 090-049-100 ACP5N	9.00	10.00	103.00	49.00	61.0	1.640	40.0	-	●
SCD 091-049-100 ACP5N	9.10	10.00	103.00	49.00	61.0	1.660	40.0	-	●
SCD 092-049-100 ACP5N	9.20	10.00	103.00	49.00	61.0	1.670	40.0	-	●
SCD 093-049-100 ACP5N	9.30	10.00	103.00	49.00	61.0	1.690	40.0	-	●
SCD 094-049-100 ACP5N	9.40	10.00	103.00	49.00	61.0	1.710	40.0	-	●
SCD 095-049-100 ACP5N	9.50	10.00	103.00	49.00	61.0	1.730	40.0	M11	●
SCD 096-049-100 ACP5N	9.60	10.00	103.00	49.00	61.0	1.750	40.0	-	●
SCD 097-049-100 ACP5N	9.70	10.00	103.00	49.00	61.0	1.770	40.0	-	●
SCD 098-049-100 ACP5N	9.80	10.00	103.00	49.00	61.0	1.780	40.0	-	●
SCD 099-049-100 ACP5N	9.90	10.00	103.00	49.00	61.0	1.800	40.0	-	●
SCD 100-049-100 ACP5N	10.00	10.00	103.00	49.00	61.0	1.820	40.0	-	●
SCD 101-056-120 ACP5N	10.10	12.00	118.00	56.00	71.0	1.840	45.0	-	●
SCD 102-056-120 ACP5N	10.20	12.00	118.00	56.00	71.0	1.860	45.0	M12	●
SCD 103-056-120 ACP5N	10.30	12.00	118.00	56.00	71.0	1.870	45.0	-	●
SCD 104-056-120 ACP5N	10.40	12.00	118.00	56.00	71.0	1.890	45.0	-	●
SCD 105-056-120 ACP5N	10.50	12.00	118.00	56.00	71.0	1.910	45.0	-	●
SCD 106-056-120 ACP5N	10.60	12.00	118.00	56.00	71.0	1.930	45.0	-	●
SCD 107-056-120 ACP5N	10.70	12.00	118.00	56.00	71.0	1.950	45.0	-	●
SCD 108-056-120 ACP5N	10.80	12.00	118.00	56.00	71.0	1.970	45.0	-	●
SCD 109-056-120 ACP5N	10.90	12.00	118.00	56.00	71.0	1.980	45.0	-	●
SCD 110-056-120 ACP5N	11.00	12.00	118.00	56.00	71.0	2.000	45.0	-	●
SCD 111-056-120 ACP5N	11.10	12.00	118.00	56.00	71.0	2.020	45.0	-	●
SCD 112-056-120 ACP5N	11.20	12.00	118.00	56.00	71.0	2.040	45.0	-	●
SCD 113-056-120 ACP5N	11.30	12.00	118.00	56.00	71.0	1.800	45.0	-	●
SCD 114-056-120 ACP5N	11.40	12.00	118.00	56.00	71.0	2.070	45.0	-	●
SCD 115-056-120 ACP5N	11.50	12.00	118.00	56.00	71.0	2.090	45.0	-	●
SCD 116-056-120 ACP5N	11.60	12.00	118.00	56.00	71.0	2.110	45.0	-	●
SCD 117-056-120 ACP5N	11.70	12.00	118.00	56.00	71.0	2.130	45.0	-	●
SCD 118-056-120 ACP5N	11.80	12.00	118.00	56.00	71.0	2.150	45.0	-	●
SCD 119-056-120 ACP5N	11.90	12.00	118.00	56.00	71.0	2.170	45.0	-	●
SCD 120-056-120 ACP5N	12.00	12.00	118.00	56.00	71.0	2.180	45.0	M14	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL**SCD-ACP5 (5xD)**Solid Carbide Drills with Coolant
Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	FTDZ ⁽¹⁾	LS	PL	
SCD 121-060-140 ACP5	12.10	14.00	60.0	77.0	124.00	-	45.0	2.200	●
SCD 122-060-140 ACP5	12.20	14.00	60.0	77.0	124.00	M14	45.0	2.220	●
SCD 124-060-140 ACP5	12.40	14.00	60.0	77.0	124.00	-	45.0	2.260	●
SCD 125-060-140 ACP5	12.50	14.00	60.0	77.0	124.00	-	45.0	2.270	●
SCD 126-060-140 ACP5	12.60	14.00	60.0	77.0	124.00	-	45.0	2.290	●
SCD 127-060-140 ACP5	12.70	14.00	60.0	77.0	124.00	-	45.0	2.310	●
SCD 128-060-140 ACP5	12.80	14.00	60.0	77.0	124.00	-	45.0	2.330	●
SCD 129-060-140 ACP5	12.90	14.00	60.0	77.0	124.00	-	45.0	2.350	●
SCD 130-060-140 ACP5	13.00	14.00	60.0	77.0	124.00	-	45.0	2.370	●
SCD 131-060-140 ACP5	13.10	14.00	60.0	77.0	124.00	-	45.0	2.380	●
SCD 132-060-140 ACP5	13.20	14.00	60.0	77.0	124.00	-	45.0	2.400	●
SCD 133-060-140 ACP5	13.30	14.00	60.0	77.0	124.00	-	45.0	2.420	●
SCD 135-060-140 ACP5	13.50	14.00	60.0	77.0	124.00	-	45.0	2.460	●
SCD 136-060-140 ACP5	13.60	14.00	60.0	77.0	124.00	-	45.0	2.470	●
SCD 137-060-140 ACP5	13.70	14.00	60.0	77.0	124.00	-	45.0	2.490	●
SCD 138-060-140 ACP5	13.80	14.00	60.0	77.0	124.00	-	45.0	2.510	●
SCD 140-060-140 ACP5	14.00	14.00	60.0	77.0	124.00	M16	45.0	2.550	●
SCD 141-063-160 ACP5	14.10	16.00	63.0	83.0	133.00	-	45.0	2.570	●
SCD 142-063-160 ACP5	14.20	16.00	63.0	83.0	133.00	-	45.0	2.580	●
SCD 143-063-160 ACP5	14.30	16.00	63.0	83.0	133.00	-	45.0	2.600	●
SCD 145-063-160 ACP5	14.50	16.00	63.0	83.0	133.00	-	45.0	2.640	●
SCD 146-063-160 ACP5	14.60	16.00	63.0	83.0	133.00	-	45.0	2.660	●
SCD 147-063-160 ACP5	14.70	16.00	63.0	83.0	133.00	-	45.0	2.680	●
SCD 148-063-160 ACP5	14.80	16.00	63.0	83.0	133.00	-	45.0	2.690	●
SCD 149-063-160 ACP5	14.90	16.00	63.0	83.0	133.00	-	45.0	2.710	●
SCD 150-063-160 ACP5	15.00	16.00	63.0	83.0	133.00	-	45.0	2.730	●
SCD 151-063-160 ACP5	15.10	16.00	63.0	83.0	133.00	-	45.0	2.750	●
SCD 152-063-160 ACP5	15.20	16.00	63.0	83.0	133.00	-	45.0	2.770	●
SCD 153-063-160 ACP5	15.30	16.00	63.0	83.0	133.00	-	45.0	2.780	●
SCD 155-063-160 ACP5	15.50	16.00	63.0	83.0	133.00	M18	45.0	2.820	●
SCD 156-063-160 ACP5	15.60	16.00	63.0	83.0	133.00	-	45.0	2.840	●
SCD 157-063-160 ACP5	15.70	16.00	63.0	83.0	133.00	-	45.0	2.860	●
SCD 158-063-160 ACP5	15.80	16.00	63.0	83.0	133.00	-	45.0	2.880	●
SCD 160-063-160 ACP5	16.00	16.00	63.0	83.0	133.00	-	45.0	2.910	●
SCD 161-071-180 ACP5	16.10	18.00	71.0	93.0	143.00	-	48.0	2.930	●
SCD 162-071-180 ACP5	16.20	18.00	71.0	93.0	143.00	-	48.0	2.950	●
SCD 163-071-180 ACP5	16.30	18.00	71.0	93.0	143.00	-	48.0	2.970	●
SCD 164-071-180 ACP5	16.40	18.00	71.0	93.0	143.00	-	48.0	2.980	●
SCD 165-071-180 ACP5	16.50	18.00	71.0	93.0	143.00	-	48.0	3.000	●
SCD 167-071-180 ACP5	16.70	18.00	71.0	93.0	143.00	-	48.0	3.040	●
SCD 168-071-180 ACP5	16.80	18.00	71.0	93.0	143.00	-	48.0	3.060	●
SCD 169-071-180 ACP5	16.90	18.00	71.0	93.0	143.00	-	48.0	3.080	●
SCD 170-071-180 ACP5	17.00	18.00	71.0	93.0	143.00	-	48.0	3.090	●
SCD 171-071-180 ACP5	17.10	18.00	71.0	93.0	143.00	-	48.0	3.110	●
SCD 172-071-180 ACP5	17.20	18.00	71.0	93.0	143.00	-	48.0	3.130	●
SCD 174-071-180 ACP5	17.40	18.00	71.0	93.0	143.00	-	48.0	3.170	●
SCD 175-071-180 ACP5	17.50	18.00	71.0	93.0	143.00	-	48.0	3.180	●
SCD 176-071-180 ACP5	17.60	18.00	71.0	93.0	143.00	-	48.0	3.200	●
SCD 177-071-180 ACP5	17.70	18.00	71.0	93.0	143.00	-	48.0	3.220	●
SCD 178-071-180 ACP5	17.80	18.00	71.0	93.0	143.00	-	48.0	3.240	●
SCD 179-071-180 ACP5	17.90	18.00	71.0	93.0	143.00	-	48.0	3.260	●
SCD 180-071-180 ACP5	18.00	18.00	71.0	93.0	143.00	-	48.0	3.280	●
SCD 181-077-200 ACP5	18.10	20.00	77.0	101.0	153.00	-	48.0	3.290	●
SCD 182-077-200 ACP5	18.20	20.00	77.0	101.0	153.00	-	48.0	3.310	●
SCD 183-077-200 ACP5	18.30	20.00	77.0	101.0	153.00	-	48.0	3.330	●
SCD 184-077-200 ACP5	18.40	20.00	77.0	101.0	153.00	-	48.0	3.350	●
SCD 185-077-200 ACP5	18.50	20.00	77.0	101.0	153.00	-	48.0	3.370	●

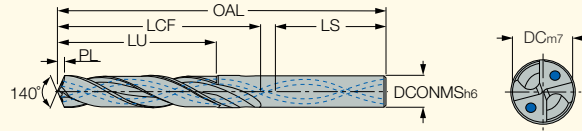
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCD-ACP5 (5xD)
(continued)

Solid Carbide Drills with Coolant
Holes, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029

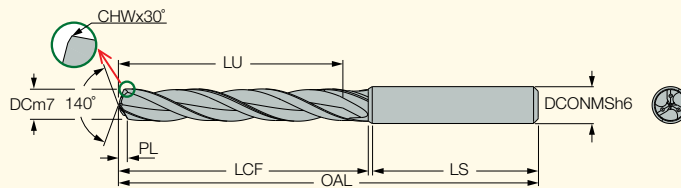


Designation	Dimensions									IC908
	DC	DCONMS	LU	LCF	OAL	FTDZ ⁽¹⁾	LS	PL		
SCD 186-077-200 ACP5	18.60	20.00	77.0	101.0	153.00	-	48.0	3.380		•
SCD 187-077-200 ACP5	18.70	20.00	77.0	101.0	153.00	-	48.0	3.400		•
SCD 188-077-200 ACP5	18.80	20.00	77.0	101.0	153.00	-	48.0	3.420		•
SCD 189-077-200 ACP5	18.90	20.00	77.0	101.0	153.00	-	48.0	3.440		•
SCD 191-077-200 ACP5	19.10	20.00	77.0	101.0	153.00	-	48.0	3.480		•
SCD 192-077-200 ACP5	19.20	20.00	77.0	101.0	153.00	-	48.0	3.490		•
SCD 193-077-200 ACP5	19.30	20.00	77.0	101.0	153.00	-	48.0	3.510		•
SCD 194-077-200 ACP5	19.40	20.00	77.0	101.0	153.00	-	48.0	3.530		•
SCD 195-077-200 ACP5	19.50	20.00	77.0	101.0	153.00	M22	48.0	3.550		•
SCD 196-077-200 ACP5	19.60	20.00	77.0	101.0	153.00	-	48.0	3.570		•
SCD 197-077-200 ACP5	19.70	20.00	77.0	101.0	153.00	-	48.0	3.590		•
SCD 198-077-200 ACP5	19.80	20.00	77.0	101.0	153.00	-	48.0	3.600		•
SCD 199-077-200 ACP5	19.90	20.00	77.0	101.0	153.00	-	48.0	3.620		•
SCD 200-077-200 ACP5	20.00	20.00	77.0	101.0	153.00	-	48.0	3.640		•

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SCCD-ACP5

Three Flute Solid Carbide
Drills with Coolant
Holes, Drilling Depth 5xD


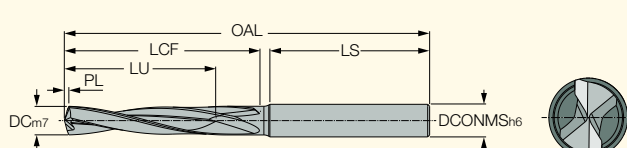
Designation	Dimensions										IC908
	DC	DCONMS	LU	LCF	OAL	LS	PL	KCH	CHW	FTDZ ⁽¹⁾	
SCCD 040-029-060 ACP5	4.00	6.00	29.0	37.0	74.00	35.0	0.820	30.0	0.30		•
SCCD 045-029-060 ACP5	4.50	6.00	29.0	37.0	74.00	35.0	0.880	30.0	0.30		•
SCCD 050-035-060 ACP5	5.00	6.00	35.0	45.0	82.00	36.0	0.960	30.0	0.30	M6	•
SCCD 051-035-060 ACP5	5.10	6.00	35.0	45.0	82.00	36.0	0.980	30.0	0.30		•
SCCD 055-035-060 ACP5	5.50	6.00	35.0	45.0	82.00	36.0	1.080	30.0	0.40		•
SCCD 060-035-060 ACP5	6.00	6.00	35.0	45.0	82.00	36.0	1.170	30.0	0.40	M7	•
SCCD 065-043-080 ACP5	6.50	8.00	43.0	54.0	91.00	36.0	1.260	30.0	0.40		•
SCCD 068-043-080 ACP5	6.80	8.00	43.0	54.0	91.00	36.0	1.310	30.0	0.40	M8	•
SCCD 070-043-080 ACP5	7.00	8.00	43.0	54.0	91.00	36.0	1.350	30.0	0.40		•
SCCD 075-043-080 ACP5	7.50	8.00	43.0	54.0	91.00	36.0	1.400	30.0	0.40		•
SCCD 080-043-080 ACP5	8.00	8.00	43.0	54.0	91.00	36.0	1.490	30.0	0.40		•
SCCD 085-049-100 ACP5	8.50	10.00	49.0	62.0	103.00	40.0	1.630	30.0	0.50	M10	•
SCCD 086-049-100 ACP5	8.60	10.00	49.0	62.0	103.00	40.0	1.650	30.0	0.50		•
SCCD 090-049-100 ACP5	9.00	10.00	49.0	62.0	103.00	40.0	1.720	30.0	0.50		•
SCCD 095-049-100 ACP5	9.50	10.00	49.0	62.0	103.00	40.0	1.750	30.0	0.50	M11	•
SCCD 100-049-100 ACP5	10.00	10.00	49.0	62.0	103.00	40.0	1.850	30.0	0.50		•
SCCD 103-056-120 ACP5	10.30	12.00	56.0	71.0	118.00	45.0	1.940	30.0	0.60		•
SCCD 105-056-120 ACP5	10.50	12.00	56.0	71.0	118.00	45.0	1.980	30.0	0.60		•
SCCD 110-056-120 ACP5	11.00	12.00	56.0	71.0	118.00	45.0	2.070	30.0	0.60		•
SCCD 115-056-120 ACP5	11.50	12.00	56.0	72.0	118.00	45.0	2.120	30.0	0.60		•
SCCD 120-056-120 ACP5	12.00	12.00	56.0	72.0	118.00	45.0	2.210	30.0	0.60	M14	•

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL**SCD-AH5 (5xD)**Solid Carbide Drills for Hard
Materials, Drilling Depth 5xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.008-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC903
	DC	LU	LCF	DCONMS	LS	OAL	FTDZ ⁽¹⁾	PL	
SCD 030-015-060 AH5	3.00	15.0	26.0	6.00	35.0	66.00	-	0.550	●
SCD 033-017-060 AH5	3.30	16.5	26.0	6.00	35.0	66.00	M4	0.600	●
SCD 040-020-060 AH5	4.00	20.0	29.0	6.00	32.0	66.00	-	0.730	●
SCD 042-021-060 AH5	4.20	21.0	32.0	6.00	46.0	82.00	M5	0.760	●
SCD 045-023-060 AH5	4.50	22.5	32.0	6.00	46.0	82.00	-	0.820	●
SCD 050-025-060 AH5	5.00	25.0	37.0	6.00	41.0	82.00	M6	0.910	●
SCD 053-027-060 AH5	5.30	26.5	39.0	6.00	37.0	82.00	-	0.960	●
SCD 060-030-060 AH5	6.00	30.0	43.0	6.00	37.0	82.00	M7	1.090	●
SCD 068-034-080 AH5	6.80	34.0	49.0	8.00	39.0	91.00	M8	1.240	●
SCD 070-035-080 AH5	7.00	35.0	49.0	8.00	39.0	91.00	-	1.270	●
SCD 078-039-080 AH5	7.80	42.0	55.0	8.00	34.0	91.00	M9	1.420	●
SCD 080-040-080 AH5	8.00	40.0	55.0	8.00	34.0	91.00	-	1.460	●
SCD 085-043-100 AH5	8.50	42.5	59.0	10.00	46.0	112.00	M10	1.550	●
SCD 088-044-100 AH5	8.80	44.0	63.0	10.00	46.0	112.00	-	1.600	●
SCD 090-045-100 AH5	9.00	45.0	63.0	10.00	46.0	112.00	-	1.640	●
SCD 095-048-100 AH5	9.50	47.5	66.0	10.00	39.0	112.00	M11	1.730	●
SCD 100-050-100 AH5	10.00	50.0	70.0	10.00	39.0	112.00	-	1.820	●
SCD 105-053-120 AH5	10.50	52.5	71.0	12.00	45.0	122.00	-	1.910	●

• For user guide see pages 175-184 • For regrinding instructions, see page 182

⁽¹⁾ Used for standard thread size**Recommended Machining Conditions for SCD-AH5 Solid Carbide Drills**

ISO	Material	Hardness	Material No.	Cutting Speed	Feed vs. Drill Diameter (mm/rev)		
				V _c (m/min)	Ø3-5	Ø5.1-8	Ø8.1-12
H	Hardened steel	50-55 HRc	38	25-40	0.04-0.07	0.05-0.08	0.06-0.10
	Hardened steel	56-60 HRc	39	15-25	0.03-0.06	0.04-0.07	0.05-0.08
	Hardened steel	61-70 HRc	39	10-15	0.02-0.04	0.03-0.05	0.03-0.05

Materials over 50 HRc must be used with external cooling while machining.

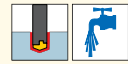
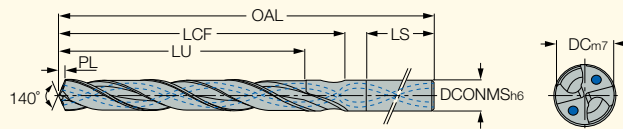
Use of semi-synthetic or emulsion with more than 6% oil concentration is highly recommended to extend tool life and hole quality.



SOLIDDRILL**SCD-ACG8 (8xD)**

DIN 6537 Solid Carbide Drills with
Coolant Holes, Drilling Depth 8xD

DC	Tolerance mT
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-16	0.007-0.025
16.01-21	0.008-0.029



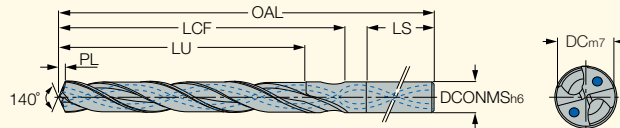
Designation	Dimensions							IC908
	DC	DCONMS	LU	LCF	OAL	LS	PL	
SCD 084-080-100 ACG8	8.40	10.00	80.0	95.0	142.00	38.0	1.530	•
SCD 089-080-100 ACG8	8.90	10.00	80.0	95.0	142.00	38.0	1.620	•
SCD 096-080-100 ACG8	9.60	10.00	80.0	95.0	142.00	38.0	1.750	•

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

SOLIDDRILL**SCD-ACP8 (8xD)**

Solid Carbide Drills with Coolant
Holes, Drilling Depth 8xD

DC	Tolerance mT
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-16	0.007-0.025
16.01-21	0.008-0.029

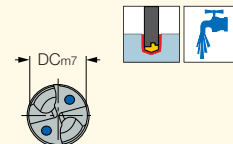
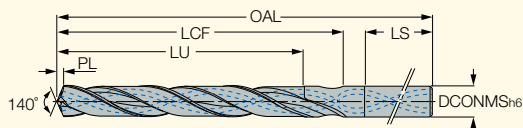


Designation	Dimensions							IC908
	DC	DCONMS	LU	LCF	OAL	LS	PL	
SCD 051-048-060 ACP8	5.10	6.00	48.0	57.0	95.00	35.0	0.930	•
SCD 054-048-060 ACP8	5.40	6.00	48.0	57.0	95.00	35.0	0.980	•
SCD 057-048-060 ACP8	5.70	6.00	48.0	57.0	95.00	35.0	1.040	•
SCD 066-064-080 ACP8	6.60	8.00	64.0	76.0	114.00	35.0	1.200	•
SCD 073-064-080 ACP8	7.30	8.00	64.0	76.0	114.00	35.0	1.330	•
SCD 098-080-100 ACP8	9.80	10.00	80.0	95.0	142.00	38.0	1.780	•

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

SOLIDDRILL**SCD-ACP8N (8xD)**Solid Carbide Drills with Coolant
Holes, Drilling Depth 8xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 030-029-060 ACP8N	3.00	6.00	29.00	34.0	72.00	34.0	-	0.550	●
SCD 031-029-060 ACP8N	3.10	6.00	29.00	34.0	72.00	34.0	-	0.560	●
SCD 032-029-060 ACP8N	3.20	6.00	29.00	34.0	72.00	34.0	-	0.580	●
SCD 033-029-060 ACP8N	3.30	6.00	29.00	34.0	72.00	34.0	M4	0.600	●
SCD 034-029-060 ACP8N	3.40	6.00	29.00	34.0	72.00	34.0	-	0.620	●
SCD 035-029-060 ACP8N	3.50	6.00	29.00	34.0	72.00	34.0	-	0.640	●
SCD 036-029-060 ACP8N	3.60	6.00	29.00	34.0	72.00	34.0	-	0.660	●
SCD 037-029-060 ACP8N	3.70	6.00	29.00	34.0	72.00	34.0	-	0.670	●
SCD 038-036-060 ACP8N	3.80	6.00	36.00	43.0	81.00	35.0	-	0.690	●
SCD 039-036-060 ACP8N	3.90	6.00	36.00	43.0	81.00	35.0	-	0.710	●
SCD 040-036-060 ACP8N	4.00	6.00	36.00	43.0	81.00	35.0	-	0.730	●
SCD 041-036-060 ACP8N	4.10	6.00	36.00	43.0	81.00	35.0	-	0.750	●
SCD 042-036-060 ACP8N	4.20	6.00	36.00	43.0	81.00	35.0	M5	0.760	●
SCD 043-036-060 ACP8N	4.30	6.00	36.00	43.0	81.00	35.0	-	0.780	●
SCD 044-036-060 ACP8N	4.40	6.00	36.00	43.0	81.00	35.0	-	0.800	●
SCD 045-036-060 ACP8N	4.50	6.00	36.00	43.0	81.00	35.0	-	0.820	●
SCD 046-036-060 ACP8N	4.60	6.00	36.00	43.0	81.00	35.0	-	0.840	●
SCD 047-036-060 ACP8N	4.70	6.00	36.00	43.0	81.00	35.0	-	0.860	●
SCD 048-048-060 ACP8N	4.80	6.00	48.00	57.0	95.00	36.0	-	0.870	●
SCD 049-048-060 ACP8N	4.90	6.00	48.00	57.0	95.00	36.0	-	0.890	●
SCD 050-048-060 ACP8N	5.00	6.00	48.00	57.0	95.00	36.0	M6	0.910	●
SCD 051-048-060 ACP8N	5.10	6.00	48.00	57.0	95.00	36.0	-	0.930	●
SCD 052-048-060 ACP8N	5.20	6.00	48.00	57.0	95.00	36.0	-	0.950	●
SCD 053-048-060 ACP8N	5.30	6.00	48.00	57.0	95.00	36.0	-	0.960	●
SCD 054-048-060 ACP8N	5.40	6.00	48.00	57.0	95.00	36.0	-	0.980	●
SCD 055-048-060 ACP8N	5.50	6.00	48.00	57.0	95.00	36.0	-	1.000	●
SCD 056-048-060 ACP8N	5.60	6.00	48.00	57.0	95.00	36.0	-	1.020	●
SCD 057-048-060 ACP8N	5.70	6.00	48.00	57.0	95.00	36.0	-	1.040	●
SCD 058-048-060 ACP8N	5.80	6.00	48.00	57.0	95.00	36.0	-	1.060	●
SCD 059-048-060 ACP8N	5.90	6.00	48.00	57.0	95.00	36.0	-	0.900	●
SCD 060-048-060 ACP8N	6.00	6.00	48.00	57.0	95.00	36.0	M7	1.090	●
SCD 061-064-080 ACP8N	6.10	8.00	64.00	76.0	114.00	36.0	-	1.110	●
SCD 062-064-080 ACP8N	6.20	8.00	64.00	76.0	114.00	36.0	-	1.130	●
SCD 063-064-080 ACP8N	6.30	8.00	64.00	76.0	114.00	36.0	-	1.150	●
SCD 064-064-080 ACP8N	6.40	8.00	64.00	76.0	114.00	36.0	-	1.160	●
SCD 065-064-080 ACP8N	6.50	8.00	64.00	76.0	114.00	36.0	-	1.180	●
SCD 066-064-080 ACP8N	6.60	8.00	64.00	76.0	114.00	36.0	-	1.200	●
SCD 067-064-080 ACP8N	6.70	8.00	64.00	76.0	114.00	36.0	-	1.220	●
SCD 068-064-080 ACP8N	6.80	8.00	64.00	76.0	114.00	36.0	M8	1.240	●
SCD 069-064-080 ACP8N	6.90	8.00	64.00	76.0	114.00	36.0	-	1.260	●
SCD 070-064-080 ACP8N	7.00	8.00	64.00	76.0	114.00	36.0	-	1.270	●
SCD 071-064-080 ACP8N	7.10	8.00	64.00	76.0	114.00	36.0	-	1.290	●
SCD 072-064-080 ACP8N	7.20	8.00	64.00	76.0	114.00	36.0	-	1.310	●
SCD 073-064-080 ACP8N	7.30	8.00	64.00	76.0	114.00	36.0	-	1.330	●
SCD 074-064-080 ACP8N	7.40	8.00	64.00	76.0	114.00	36.0	-	1.350	●
SCD 075-064-080 ACP8N	7.50	8.00	64.00	76.0	114.00	36.0	-	1.360	●
SCD 076-064-080 ACP8N	7.60	8.00	64.00	76.0	114.00	36.0	-	1.380	●
SCD 077-064-080 ACP8N	7.70	8.00	64.00	76.0	114.00	36.0	-	1.400	●
SCD 078-064-080 ACP8N	7.80	8.00	64.00	76.0	114.00	36.0	M9	1.420	●
SCD 079-064-080 ACP8N	7.90	8.00	64.00	76.0	114.00	36.0	-	1.440	●
SCD 080-064-080 ACP8N	8.00	8.00	64.00	76.0	114.00	36.0	-	1.460	●
SCD 081-080-100 ACP8N	8.10	10.00	80.00	95.0	142.00	40.0	-	1.470	●
SCD 082-080-100 ACP8N	8.20	10.00	80.00	95.0	142.00	40.0	-	1.490	●
SCD 083-080-100 ACP8N	8.30	10.00	80.00	95.0	142.00	40.0	-	1.510	●
SCD 084-080-100 ACP8N	8.40	10.00	80.00	95.0	142.00	40.0	-	1.530	●
SCD 085-080-100 ACP8N	8.50	10.00	80.00	95.0	142.00	40.0	M10	1.550	●
SCD 086-080-100 ACP8N	8.60	10.00	80.00	95.0	142.00	40.0	-	1.570	●

• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

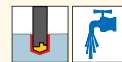
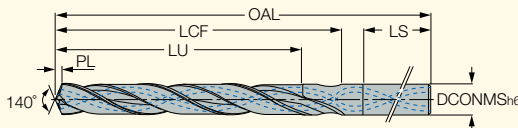
SOLIDDRILL

SCD-ACP8N (8xD)

(continued)

Solid Carbide Drills with Coolant
Holes, Drilling Depth 8xD

DC	Tolerance m7
3.00-6	0.004-0.016
6.01-10	0.006-0.021
10.01-18	0.007-0.025
18.01-21	0.008-0.029



Designation	Dimensions								IC908
	DC	DCONMS	LU	LCF	OAL	LS	FTDZ ⁽¹⁾	PL	
SCD 087-080-100 ACP8N	8.70	10.00	80.00	95.0	142.00	40.0	-	1.580	●
SCD 088-080-100 ACP8N	8.80	10.00	80.00	95.0	142.00	40.0	-	1.600	●
SCD 089-080-100 ACP8N	8.90	10.00	80.00	95.0	142.00	40.0	-	1.620	●
SCD 090-080-100 ACP8N	9.00	10.00	80.00	95.0	142.00	40.0	-	1.640	●
SCD 091-080-100 ACP8N	9.10	10.00	80.00	95.0	142.00	40.0	-	1.660	●
SCD 092-080-100 ACP8N	9.20	10.00	80.00	95.0	142.00	40.0	-	1.670	●
SCD 093-080-100 ACP8N	9.30	10.00	80.00	95.0	142.00	40.0	-	1.690	●
SCD 094-080-100 ACP8N	9.40	10.00	80.00	95.0	142.00	40.0	-	1.710	●
SCD 095-080-100 ACP8N	9.50	10.00	80.00	95.0	142.00	40.0	M11	1.730	●
SCD 096-080-100 ACP8N	9.60	10.00	80.00	95.0	142.00	40.0	-	1.750	●
SCD 097-080-100 ACP8N	9.70	10.00	80.00	95.0	142.00	40.0	-	1.770	●
SCD 098-080-100 ACP8N	9.80	10.00	80.00	95.0	142.00	40.0	-	1.780	●
SCD 100-080-100 ACP8N	10.00	10.00	80.00	95.0	142.00	40.0	-	1.820	●

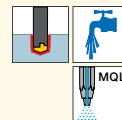
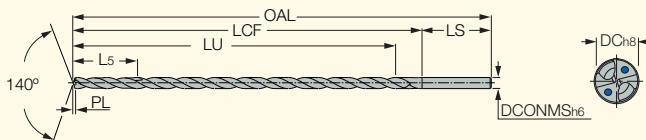
• For user guide and cutting conditions, see pages 175-184 • For regrinding instructions, see page 181

⁽¹⁾ Used for standard thread size

SOLIDDRILL

SCD-ACP20 (20xD)

Solid Carbide Drills with Coolant
Holes, Drilling Depth 20xD



Designation	Dimensions								IC908
	DC	LU	OAL	LCF	LS	L5 ⁽¹⁾	DCONMS	PL	
SCD 050-100-050ACP20	5.00	100.0	165.00	115.0	50.0	40.00	5.00	0.910	●
SCD 060-120-060ACP20	6.00	120.0	190.00	140.0	50.0	40.00	6.00	1.090	●
SCD 070-140-070ACP20	7.00	140.0	210.00	160.0	50.0	55.00	7.00	1.270	●
SCD 080-160-080ACP20	8.00	160.0	230.00	180.0	50.0	55.00	8.00	1.460	●
SCD 090-180-090ACP20	9.00	180.0	265.00	205.0	60.0	55.00	9.00	1.640	●
SCD 100-200-100ACP20	10.00	200.0	285.00	225.0	60.0	55.00	10.00	1.820	●

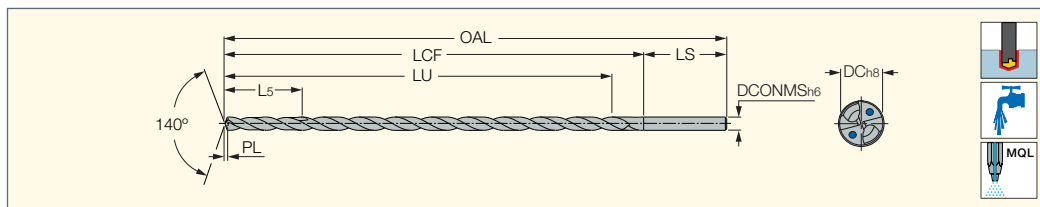
• For user guide and cutting conditions, see pages 170, 175-184

⁽¹⁾ 50% of the four margin leading portion may be used for regrinding



SOLIDDRILL**SCD-ACP-CS (20xD)**

Solid Carbide Drills with
Coolant Holes for Automotive
Crankshaft Applications,
Drilling Depth 20-22xD



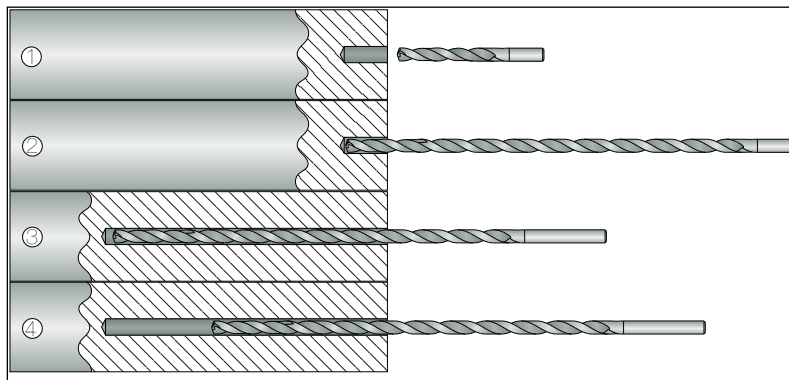
Designation	Dimensions								IC908
	DC	LU	LCF	OAL	DCONMS	PL	LS	L5 ⁽¹⁾	
SCD 050-103-060ACP-CS	5.00	103.0	118.0	156.00	6.00	0.910	38.0	40.00	•
SCD 060-120-060ACP-CS	6.00	120.0	140.0	178.00	6.00	1.090	38.0	40.00	•

• For user guide, see pages 175-184

⁽¹⁾ Up to 50% of this length may be used to regrind

Recommended Drilling Procedure for Deep Hole Drilling (20XD)

- 1 Drill a pilot hole 1-2*D deep with a short drill. The pilot drill should be 0.03-0.05 mm larger than the long drill and its point angle should also be larger (over 140°).
- 2 Enter the pre-hole using low speed and feed, until it engages the material.
- 3 Increase cutting speed and feed to recommended conditions – **no pecking is required!**
- 4 After having reached the required depth, reduce speed by more than 50% while retracting from the hole.



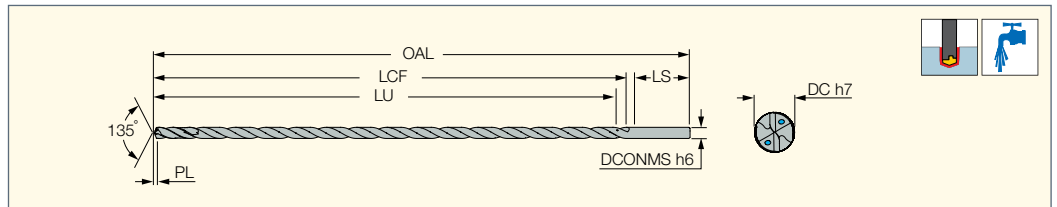
Recommended Machining Conditions for Solid Carbide 20xD Drills

Drill Dia. (mm)	Carbon Steel (30 HRC)		Alloy Steel (45 HRC)		Stainless Steel		Cast Iron (GG25)		Ductile Cast Iron (GG45)	
	V(m/min)	f(mm/rev)	V(m/min)	f(mm/rev)	V(m/min)	f(mm/rev)	V(m/min)	f(mm/rev)	V(m/min)	f(mm/rev)
5	60-120	0.12-0.25	50-100	0.1-0.20	30-60	0.08-0.15	60-120	0.15-0.30	40-80	0.15-0.25
6	60-120	0.14-0.25	50-100	0.14-0.25	30-60	0.10-0.18	60-120	0.14-0.25	40-80	0.14-0.25
7-8	60-120	0.16-0.30	50-100	0.16-0.30	30-60	0.10-0.20	60-120	0.16-0.30	40-80	0.16-0.30
9-10	60-120	0.16-0.30	50-100	0.10-0.20	30-60	0.08-0.115	60-120	0.20-0.35	40-80	0.20-0.35



SCD-SXC30

Solid Carbide Drills with
Internal Coolant Channels,
Drilling Depth 30xD



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	LS	PL	ULDR ⁽²⁾	
SCD 030-097-060 SXC30	3.00	6.00	150.00	97.00	105.0	40.0	0.495	30.0	•
SCD 032-097-060 SXC30	3.20	6.00	150.00	97.00	105.0	40.0	0.528	30.0	•
SCD 033-127-060 SXC30	3.30	6.00	185.00	127.00	135.0	45.0	0.544	30.0	•
SCD 035-127-060 SXC30	3.50	6.00	185.00	127.00	135.0	45.0	0.578	30.0	•
SCD 038-127-060 SXC30 ⁽¹⁾	3.80	6.00	185.00	127.00	135.0	45.0	0.627	30.0	•
SCD 040-127-060 SXC30	4.00	6.00	185.00	127.00	135.0	45.0	0.660	30.0	•
SCD 042-127-060 SXC30	4.20	6.00	185.00	127.00	135.0	45.0	0.693	30.0	•
SCD 045-157-060 SXC30	4.50	6.00	215.00	157.00	165.0	45.0	0.743	30.0	•
SCD 047-157-060 SXC30 ⁽¹⁾	4.70	6.00	215.00	157.00	165.0	45.0	0.775	30.0	•
SCD 048-157-060 SXC30	4.80	6.00	215.00	157.00	165.0	45.0	0.792	30.0	•
SCD 050-157-060 SXC30	5.00	6.00	215.00	157.00	165.0	45.0	0.825	30.0	•
SCD 055-172-060 SXC30	5.50	6.00	230.00	172.00	180.0	45.0	0.907	30.0	•
SCD 058-172-060 SXC30 ⁽¹⁾	5.80	6.00	230.00	172.00	180.0	45.0	0.957	30.0	•
SCD 060-172-060 SXC30	6.00	6.00	230.00	172.00	180.0	45.0	0.990	30.0	•
SCD 065-207-080 SXC30	6.50	8.00	280.00	207.00	215.0	60.0	1.072	30.0	•
SCD 068-222-080 SXC30	6.80	8.00	280.00	222.00	230.0	45.0	1.122	30.0	•
SCD 070-222-080 SXC30	7.00	8.00	280.00	222.00	230.0	45.0	1.155	30.0	•
SCD 075-222-080 SXC30 ⁽¹⁾	7.50	8.00	280.00	222.00	230.0	45.0	1.238	30.0	•
SCD 078-257-080 SXC30 ⁽¹⁾	7.80	8.00	315.00	257.00	265.0	45.0	1.287	30.0	•
SCD 080-257-080 SXC30	8.00	8.00	315.00	257.00	265.0	45.0	1.320	30.0	•
SCD 085-287-100 SXC30	8.50	10.00	350.00	287.00	295.0	50.0	1.402	30.0	•
SCD 088-322-100 SXC30 ⁽¹⁾	8.80	10.00	380.00	322.00	330.0	45.0	1.452	30.0	•
SCD 090-322-100 SXC30	9.00	10.00	380.00	322.00	330.0	45.0	1.485	30.0	•
SCD 098-322-100 SXC30	9.80	10.00	380.00	322.00	330.0	45.0	1.617	30.0	•
SCD 100-322-100 SXC30	10.00	10.00	380.00	322.00	330.0	45.0	1.650	30.0	•

• For user guide, see pages 175-184

⁽¹⁾ On request

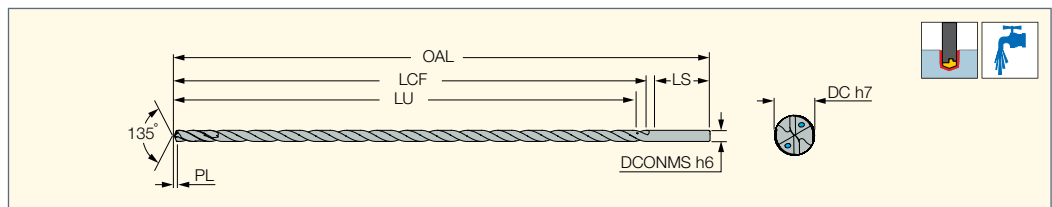
⁽²⁾ Usable length diameter ratio

Recommended Machining Conditions for SCD-SXC30 Solid Carbide Drills

ISO	Material		Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No.	Cutting Speed V _c (m/min)	Cutting Diameter							
								Feed (mm/rev)							
								3.0-5.0	5.0-8.0	8.0-10.0					
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1	65-70	0.09-0.11	0.12-0.17	0.18-0.22					
		>= 0.25 %C	Annealed	650	190	2									
		< 0.55 %C	Quenched and tempered	850	250	3									
		>= 0.55 %C	Annealed	750	220	4									
		>= 0.55 %C	Quenched and tempered	1000	300	5									
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		Quenched and tempered		600					200	6	60-65		
						930					275	7			
						1000					300	8			
						1200					350	9			
	High alloyed steel, cast steel, and tool steel	Annealed		Quenched and tempered		680	200	10	45-50						
						1100	325	11							
Stainless steel and cast steel	Ferritic/martensitic.		Martensitic		680	200	12	0.07-0.09	0.10-0.14	0.13-0.17					
					820	240	13								
M	Stainless steel and cast steel		Austenitic	600	180	14	40-45	0.07-0.09	0.10-0.14	0.13-0.17					
K	Grey cast iron (GG)		Ferritic/pearlitic				75-85	0.18-0.22	0.20-0.30	0.30-0.40					
											Pearlitic				
	Cast iron nodular (GGG)		Ferritic												
											Pearlitic				
	Malleable cast iron		Ferritic												
Pearlitic															
		S	High temp. alloys	Fe based	Annealed						200	31	45-50	0.07-0.09	0.10-0.14
Cured							280	32							
Ni or Co based	Annealed					250			33						
	Cured						350	34							
Titanium Ti alloys			Cast						320	35	40-45	0.05-0.07	0.07-0.10	0.10-0.13	
			Pure				110	36							
			Alpha+beta alloys cured												RM 1050

SOLIDDRILL**SCD-SXC40**

Solid Carbide Drills with
Internal Coolant Channels,
Drilling Depth 40xD



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	LS	PL	ULDR ⁽²⁾	
SCD 030-132-060 SXC40	3.00	6.00	190.00	132.00	140.0	45.0	0.495	40.0	●
SCD 038-172-060 SXC40 ⁽¹⁾	3.80	6.00	230.00	172.00	180.0	45.0	0.627	40.0	●
SCD 040-172-060 SXC40	4.00	6.00	230.00	172.00	180.0	45.0	0.660	40.0	●
SCD 042-172-060 SXC40	4.20	6.00	230.00	172.00	180.0	45.0	0.693	40.0	●
SCD 045-212-060 SXC40	4.50	6.00	270.00	212.00	220.0	45.0	0.743	40.0	●
SCD 047-212-060 SXC40 ⁽¹⁾	4.70	6.00	270.00	212.00	220.0	45.0	0.775	40.0	●
SCD 048-212-060 SXC40	4.80	6.00	270.00	212.00	220.0	45.0	0.792	40.0	●
SCD 050-212-060 SXC40	5.00	6.00	270.00	212.00	220.0	45.0	0.825	40.0	●
SCD 055-232-060 SXC40	5.50	6.00	290.00	232.00	240.0	45.0	0.907	40.0	●
SCD 058-232-060 SXC40 ⁽¹⁾	5.80	6.00	290.00	232.00	240.0	45.0	0.957	40.0	●
SCD 060-232-060 SXC40	6.00	6.00	290.00	232.00	240.0	45.0	0.990	40.0	●
SCD 065-282-080 SXC40	6.50	8.00	340.00	282.00	290.0	45.0	1.072	40.0	●
SCD 068-312-080 SXC40	6.80	8.00	370.00	312.00	320.0	45.0	1.122	40.0	●
SCD 070-312-080 SXC40	7.00	8.00	370.00	312.00	320.0	45.0	1.155	40.0	●
SCD 075-312-080 SXC40 ⁽¹⁾	7.50	8.00	370.00	312.00	320.0	45.0	1.238	40.0	●
SCD 078-342-080 SXC40 ⁽¹⁾	7.80	8.00	400.00	342.00	350.0	45.0	1.287	40.0	●
SCD 080-342-080 SXC40	8.00	8.00	400.00	342.00	350.0	45.0	1.320	40.0	●

• For user guide, see pages 175-184

⁽¹⁾ On request

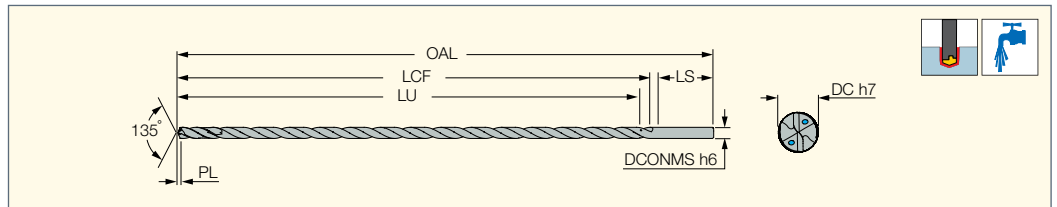
⁽²⁾ Usable length diameter ratio

Recommended Machining Conditions for SCD-SXC40 Solid Carbide Drills

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No.	Cutting Speed V _c (m/min)	Cutting Diameter Feed (mm/rev)					
							3.0-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0	
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C Annealed	420	125	1	55-65	0.043-0.048	0.058-0.063	0.068-0.078	0.083-0.093	0.093-0.117	
		≥ 0.25 %C Annealed	650	190	2							
		< 0.55 %C Quenched and tempered	850	250	3							
		≥ 0.55 %C Annealed	750	220	4							
		≥ 0.55 %C Quenched and tempered	1000	300	5							
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	45-55	0.023-0.043	0.033-0.068	0.043-0.068	0.053-0.083	0.065-0.103	
		Quenched and tempered	930	275	7							
			1000	300	8							
			1200	350	9							
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	35-45	0.02-0.023	0.03-0.033	0.04-0.043	0.05-0.055	0.06-0.071	
		Quenched and tempered	1100	325	11							
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	30-35	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.06-0.071	
		Martensitic	820	240	13							
M	Stainless steel and cast steel	Austenitic	600	180	14	25-30	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.06-0.071	
K	Grey cast Iron (GG)	Ferritic/pearlitic		180	15	60-70	0.035-0.071	0.05-0.098	0.06-0.121	0.075-0.150	0.085-0.198	
		Pearlitic		260	16							
	Cast Iron nodular (GGG)	Ferritic		160	17	55-60						
		Pearlitic		250	18							
	Malleable cast Iron	Ferritic		130	19	50-55						
		Pearlitic		230	20							
S	High temp. alloys	Fe based	Annealed		200	31	30-35	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.063-0.71
			Cured		280	32						
		Ni or Co based	Annealed		250	33	25-30	0.017-0.02	0.027-0.03	0.037-0.04	0.047-0.05	0.06-0.066
			Cured		350	34						
	Titanium Ti alloys	Cast		320	35	30-35	0.018-0.021	0.028-0.031	0.038-0.041	0.048-0.051	0.062-0.069	
		Pure	RM 400	110	36							
		Alpha-beta alloys cured	RM 1050	310	37							

SCD-SXC50

Solid Carbide Drills with
Internal Coolant Channels,
Drilling Depth 50xD



Designation	Dimensions								IC908
	DC	DCONMS	OAL	LU	LCF	LS	PL	ULDR ⁽²⁾	
SCD 040-217-060 SXC50	4.00	6.00	270.00	217.00	225.0	40.0	0.660	50.0	•
SCD 042-217-060 SXC50	4.20	6.00	270.00	217.00	225.0	40.0	0.693	50.0	•
SCD 045-267-060 SXC50	4.50	6.00	320.00	267.00	275.0	40.0	0.743	50.0	•
SCD 047-267-060 SXC50 ⁽¹⁾	4.70	6.00	320.00	267.00	275.0	40.0	0.775	50.0	•
SCD 048-267-060 SXC50	4.80	6.00	320.00	267.00	275.0	40.0	0.792	50.0	•
SCD 050-267-060 SXC50	5.00	6.00	320.00	267.00	275.0	40.0	0.825	50.0	•
SCD 055-302-060 SXC50	5.50	6.00	360.00	302.00	310.0	45.0	0.907	50.0	•
SCD 058-302-060 SXC50 ⁽¹⁾	5.80	6.00	360.00	302.00	310.0	45.0	0.957	50.0	•
SCD 060-302-060 SXC50	6.00	6.00	360.00	302.00	310.0	45.0	0.990	50.0	•

• For user guide, see pages 175-184

⁽¹⁾ On request

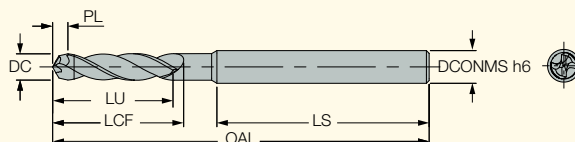
⁽²⁾ Usable length diameter ratio

Recommended Machining Conditions for SCD-SXC50 Solid Carbide Drills

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No.	Cutting Speed V _c (m/min)	Cutting Diameter Feed (mm/rev)				
							3.0-4.0	4.1-5.0	5.1-6.0	6.1-7.0	7.1-8.0
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	420	125	1	55-65	0.043-0.048	0.058-0.063	0.068-0.078	0.083-0.093	0.093-0.117
		>= 0.25 %C	650	180	2						
		< 0.55 %C	850	250	3						
		>= 0.55 %C	750	220	4						
		>= 0.55 %C	1000	300	5						
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	45-55	0.023-0.043	0.033-0.058	0.043-0.068	0.053-0.083	0.055-0.103
		Quenched and tempered	930	275	7						
			1000	300	8						
			1200	350	9						
	High alloyed steel, cast steel, and tool steel	Annealed	680	200	10	35-45	0.02-0.023	0.03-0.033	0.04-0.043	0.05-0.055	0.06-0.071
		Quenched and tempered	1100	325	11						
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	30-35	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.06-0.071
		Martensitic	820	240	13						
M	Stainless steel and cast steel	Austenitic	600	180	14	25-30	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.06-0.071
K	Grey cast Iron (GG)	Ferritic/pearlitic		180	15	60-70					
		Pearlitic		260	16						
	Cast Iron nodular (GGG)	Ferritic		160	17	55-60	0.035-0.071	0.05-0.098	0.06-0.121	0.075-0.150	0.085-0.198
		Pearlitic		250	18						
	Malleable cast Iron	Ferritic		130	19	50-55					
		Pearlitic		230	20						
S	Fe based	Annealed		200	31	30-35	0.02-0.023	0.03-0.033	0.04-0.043	0.051-0.055	0.053-0.71
		Cured		280	32						
	High temp. alloys Ni or Co based	Annealed		250	33	25-30	0.017-0.02	0.027-0.03	0.037-0.04	0.047-0.05	0.06-0.066
		Cured		350	34						
		Cast		320	35						
	Titanium Ti alloys	Pure	RM 400	110	36	30-35	0.018-0.021	0.028-0.031	0.038-0.041	0.048-0.051	0.052-0.069
		Alpha+beta alloys cured	RM 1050	310	37						

SOLIDDRILL**SCD-FNPCD**

Solid Carbide Drills with PCD Full Nib Insert for Composite Materials (CFRP) and Stack Machining

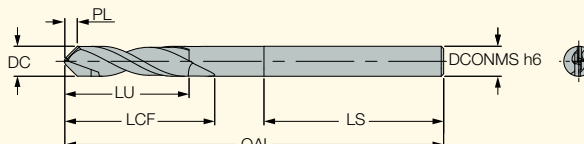


Designation	DC	DCONMS	LU	LCF	LS	OAL	PL
SCD 0330-025-040 FNPCD	3.30	4.00	25.00	30.0	36.0	70.00	3.000
SCD 0419-028-060 FNPCD	4.19	6.00	28.00	34.3	34.0	70.00	2.100
SCD 0485-028-060 FNPCD	4.85	6.00	28.00	35.3	34.0	70.00	2.430
SCD 0637-032-080 FNPCD	6.37	8.00	32.00	41.6	32.0	76.00	3.190

• For user guide and cutting conditions, see pages 175-184

SOLIDDRILL**SCD-WPCD**

Solid Carbide Drills with PCD Insert for Composite Materials (CFRP) and Stack Machining

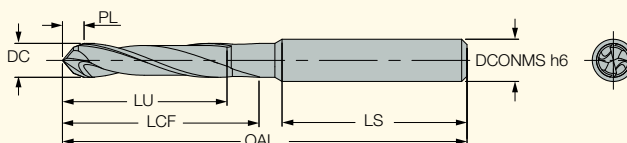


Designation	DC	DCONMS	LU	LCF	LS	OAL	PL
SCD 0419-028-060 WPCD	4.19	6.00	28.00	34.3	34.0	70.00	2.100
SCD 0485-028-060 WPCD	4.85	6.00	28.00	35.3	34.0	70.00	2.430
SCD 0637-032-080 WPCD	6.37	8.00	32.00	41.6	32.0	75.00	3.190
SCD 0794-032-080 WPCD	7.94	8.00	32.00	43.9	30.0	75.00	3.970
SCD 1000-040-100 WPCD	10.00	10.00	40.00	50.0	40.0	84.00	5.000
SCD 1200-045-120 WPCD	12.00	12.00	45.00	55.0	40.0	89.00	6.000

• For user guide and cutting conditions, see pages 175-184

SOLIDDRILL**SCD-CVD**

Solid Carbide Drills with CVD Coating for Composite Materials (CFRP) and Stack Machining



Designation	DC	DCONMS	LU	LCF	LS	OAL	PL
SCD 0330-025-040 CVD	3.30	4.00	25.00	30.0	36.0	70.00	3.000
SCD 0419-028-060 CVD	4.19	6.00	28.00	34.0	32.0	70.00	3.500
SCD 0485-028-060 CVD	4.85	6.00	28.00	35.0	32.0	70.00	4.000
SCD 0637-032-080 CVD	6.37	8.00	32.00	42.0	32.0	76.00	5.400
SCD 0794-032-080 CVD	7.94	8.00	32.00	44.0	30.0	76.00	6.700

• For user guide and cutting conditions, see pages 175-184



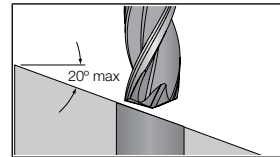
General Recommendations

- It is mostly recommended to use an external coolant jet at a minimum pressure of 10 to 15 bar during drilling for prolonged tool life and to facilitate chip evacuation.
- When machining alloy and stainless steel, it is mostly recommended to use **ER JET 2** collet to prolong tool life and prevent built-up edge.
- Semi-synthetic or emulsion lubricants should be used to extend tool life.
- Drilling stainless steel or high temperature alloys requires high oil pressure and 7-15% mineral or vegetable based oil emulsion for prolonged tool life. Dry machining may badly affect hole quality and drill tool life.
- In case of chip evacuation problems or when poor surface finish is obtained, it is most recommended to use pecking cycle.
- For optimal performance, it is recommended to use the 3 flute, 5xD solid carbide drills in rotating or stationary applications with a maximum of 0.02 mm runout. Larger runout will reduce drill performance and badly affect hole quality.
- The solid drills can be clamped into any of **ISCAR's** tooling systems such as:
 - 1 Collet chucks
 - 2 Thermal shrink chucks
 - 3 ISCAR MAXIN power chucks
- It is recommended to use the solid drills in SHORTIN adapters with AA super precision collets to obtain a high level of hole quality and prolonged drill tool life. Balanceable adapters should be used for applications above 10,000 RPM in order to minimize vibrations and gain a reliable and prolonged cutting edge life.
- Interrupted cut applications reduce hole accuracy, quality and drill life.
- See pages 179-180 for troubleshooting guide for common problems.
- Solid carbide drills can be used on a wide range of materials and different cutting conditions with high reliability and performance repeatability. This can reduce tool inventory and logistic costs.

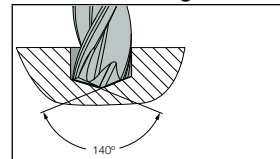
3 Flute Solid Carbide Drills

Three flute drills are used extensively on nonferrous metals because of their excellent performance on these materials. These solid carbide drills were designed with a special cutting edge geometry that can be used on a broad spectrum of materials including steel, stainless steel, high temperature alloys, cast iron and nonferrous materials. Their dimensions are according to DIN 6537 standard. The SCCD drills are manufactured in m7 diameter tolerance, with cylindrical shanks according to DIN 6535 HA standard, 30° spiral flute helix, 140° head point angle and a reinforced web taper.

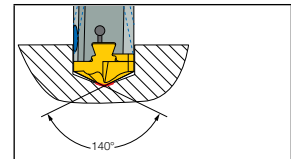
The drills can be used on surface applications of up to 20° sloped entry/exit. (In this case, the drill should be held in a thermal shrink collet or a **MAXIN** power chuck). The 3 flute solid carbide drills cannot be used on radial drill adjustment diameter devices such as our **FITBORE** adapter.



3 Flute Centering Drill



Followed by a
CHAMDRILL
SUMOCAM/CHAMGUN

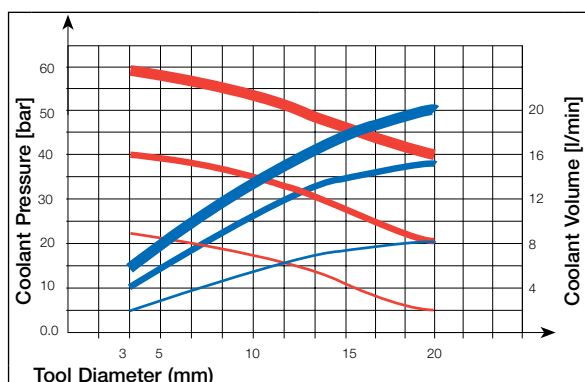


Advantages

The drills provide higher hole cylindricity, roundness, straightness, concentricity and surface finish when compared to 2 flute solid carbide drills.

The 3 flute solid carbide drills with a 140° point head can serve as centering drills for **CHAMDRILL/SUMOCAM** or **CHAMGUN** if necessary.

Coolant Pressure and Volume Recommendations



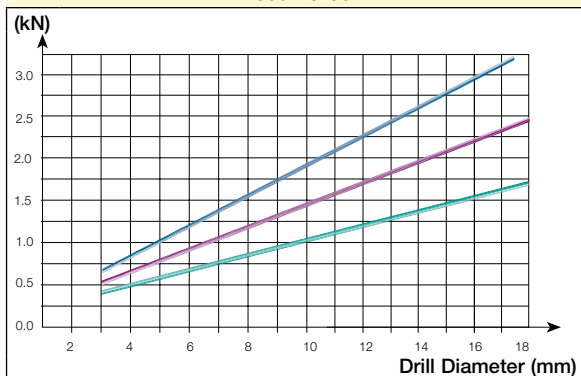
Required Coolant Pressure
 ■ Optimum pressure
 ■ Good pressure
 ■ Minimum pressure

Required Coolant Volume
 ■ Optimum volume
 ■ Good volume
 ■ Minimum pressure

Required coolant pressure and volume for **SCD** drills with internal coolant spiral nozzles.

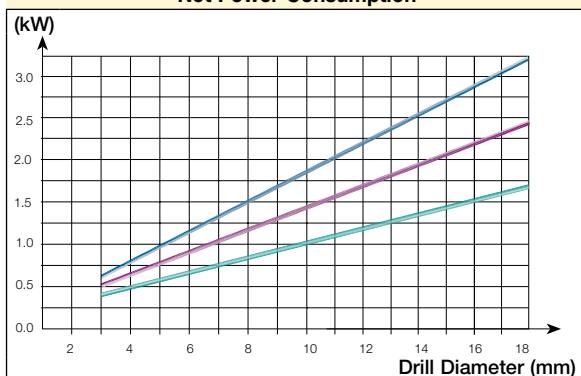
Force and Power Characteristics

Feed Force



■ $f=0.30$ mm/rev
 ■ $f=0.25$ mm/rev
 ■ $f=0.20$ mm/rev

Net Power Consumption



■ $f=0.30$ mm/rev
 ■ $f=0.25$ mm/rev
 ■ $f=0.20$ mm/rev

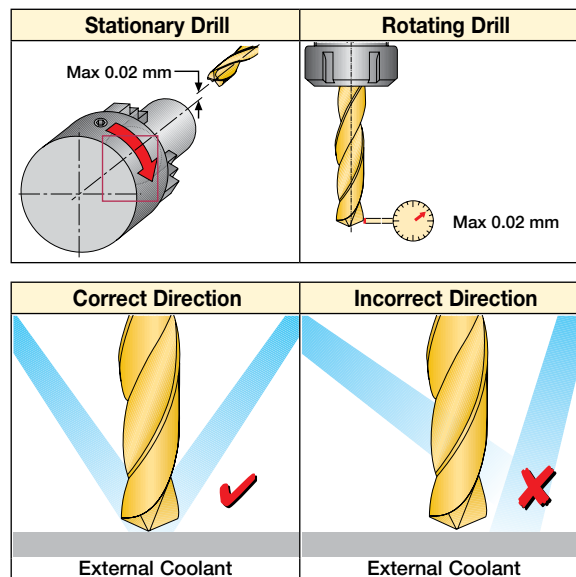
Material: SAE 4340

Speed: 100 m/min

Values may change for different materials and drilling conditions.

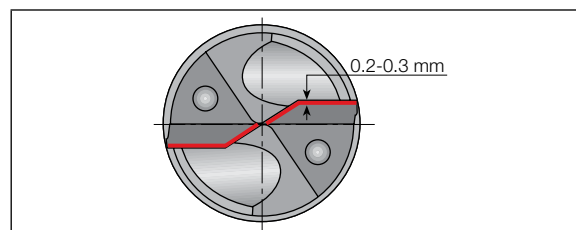
Stability

The stability of the application volume is important in order to obtain the very best tool life and hole accuracy. Check the condition of the machine spindle, fixture and fixturing of the component to secure maximum stability and rigidity. Unstable conditions can cause tool breakage.



Tool Life

Drills should not be used with flank wear exceeding 0.2-0.3 mm.



Recommended Machining Conditions for Solid Carbide Drills D=0.8-2.9 mm

ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No. ⁽¹⁾	Cutting Speed V _c (m/min)	Feed (mm/rev) vs. Drill Diameter			
							Ø0.8-1.4	Ø1.5-1.9	Ø2-2.4	Ø2.5-2.9
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C Annealed	420	125	1	50-100	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		>= 0.25 %C Annealed	650	190	2	40-100	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		< 0.55 %C Quenched and tempered	850	250	3	40-85	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		>= 0.55 %C Annealed	750	220	4	40-85	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Quenched and tempered	1000	300	5	40-85	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	40-75	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Quenched and tempered	930	275	7	40-60	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
			1000	300	8	40-60	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
			1200	350	9	40-60	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	High alloyed steel, cast steel and tool steel	Annealed	680	200	10	30-50	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Quenched and tempered	1100	325	11	30-50	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	20-35	0.03-0.06	0.04-0.08	0.05-0.10	0.06-0.10
		Martensitic	820	240	13	20-35	0.03-0.06	0.04-0.08	0.05-0.10	0.06-0.10
M	Stainless steel	Austenitic	600	180	14	20-35	0.03-0.06	0.04-0.08	0.05-0.10	0.06-0.10
K	Grey cast iron (GG)	Ferritic/pearlitic		180	15	40-80	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Pearlitic		260	16	40-70	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Nodular cast iron (GGG)	Ferritic		160	17	40-95	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Pearlitic		250	18	50-95	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Malleable cast iron	Ferritic		130	19	40-80	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Pearlitic		230	20	40-80	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
N	Aluminum- wrought alloy	Not cureable		60	21	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Cured		100	22	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Aluminum- cast, alloyed	<=12% Si Not cureable		75	23	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Cured		90	24	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		>12% Si High temperature		130	25	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
	Copper alloys	>1% Pb Free cutting		110	26	80-150	0.03-0.10	0.05-0.15	0.07-0.17	0.08-0.20
		Brass		90	27	50-150	0.05-0.12	0.07-0.15	0.08-0.18	0.09-0.18
		Electrolitic copper		100	28	60-160	0.05-0.15	0.07-0.18	0.08-0.20	0.09-0.22
	Non-metallic	Duroplastics, fiber plastics			29					
		Hard rubber			30					
S	High temp. alloys	Fe based Annealed		200	31	10-20	0.02-0.04	0.03-0.06	0.04-0.07	0.04-0.08
		Cured		280	32	10-20	0.02-0.04	0.03-0.06	0.04-0.07	0.04-0.08
		Ni or Co based	Annealed	250	33	10-20	0.02-0.04	0.03-0.06	0.04-0.07	0.04-0.08
			Cured	350	34	10-20	0.02-0.04	0.03-0.06	0.04-0.07	0.04-0.08
			Cast	320	35	10-20	0.02-0.04	0.03-0.06	0.04-0.07	0.04-0.08
	Titanium Ti alloys		RM 400		36	10-20	0.02-0.03	0.02-0.03	0.03-0.04	0.03-0.04
		Alpha+beta alloys cured	RM 1050		37	10-20	0.02-0.03	0.02-0.03	0.03-0.04	0.03-0.04
H	Hardened steel	Hardened		55 HRC	38	10-20	0.01-0.02	0.01-0.02	0.02-0.03	0.02-0.03
		Hardened		60 HRC	39	10-20	0.01-0.02	0.01-0.02	0.02-0.03	0.02-0.03
	Chilled cast iron	Cast		400	40	10-20	0.01-0.02	0.01-0.02	0.02-0.03	0.02-0.03
	Cast iron	Hardened		55 HRC	41	10-20	0.01-0.02	0.01-0.02	0.02-0.03	0.02-0.03

- For drill with length to diameter ratio larger than 6xD, reduce feed by 20%
- If the RPM exceeds 10,000, a dynamic balance should be done to the system
- Maximal radial and axial runout should not exceed 0.01 mm
- As a starting value, the middle of the recommended machining range should be used, then (according to wear results), conditions can be changed in order to optimize performance.

(1) For workpiece materials list, see pages 495-524

Recommended Machining Conditions for Solid Carbide Drills D=3.0-20.0 mm

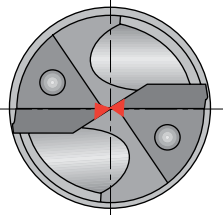
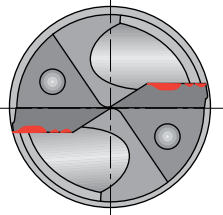
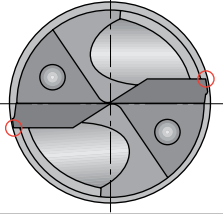
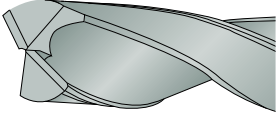
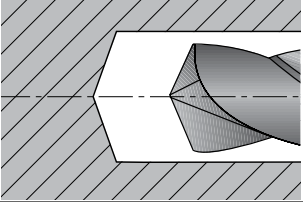
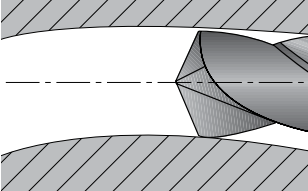
ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No. ⁽¹⁾	Cutting Speed V _c m/min	Feed (mm/rev) vs. Drill Diameter				
							Ø3-5	Ø5.1-8	Ø8.1-12	Ø12.1-16	Ø16.1-20
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C Annealed	420	125	1	80-120	0.10-0.18	0.15-0.25	0.2-0.30	0.20-0.35	0.25-0.40
		>= 0.25 %C Annealed	650	190	2	80-110	0.10-0.18	0.15-0.25	0.2-0.30	0.20-0.35	0.25-0.40
		< 0.55 %C Quenched and tempered	850	250	3	70-100	0.10-0.20	0.15-0.28	0.2-0.35	0.20-0.38	0.25-0.42
		>= 0.55 %C Annealed	750	220	4						
		Quenched and tempered	1000	300	5						
	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	600	200	6	70-90	0.10-0.18	0.15-0.25	0.2-0.30	0.20-0.35	0.25-0.40
		Quenched and tempered	930	275	7		0.10-0.18	0.15-0.25	0.2-0.30	0.20-0.35	0.25-0.40
			1000	300	8	60-80	0.10-0.18	0.15-0.25	0.2-0.30	0.20-0.35	0.25-0.40
			1200	350	9	50-70	0.10-0.20	0.15-0.28	0.2-0.35	0.20-0.38	0.25-0.42
	High alloyed steel, cast steel and tool steel	Annealed	680	200	10	60-80	0.10-0.20	0.15-0.28	0.18-0.35	0.20-0.38	0.25-0.42
		Quenched and tempered	1100	325	11	50-70	0.10-0.15	0.12-0.20	0.14-0.25	0.16-0.30	0.18-0.32
	Stainless steel and cast steel	Ferritic/martensitic	680	200	12	25-75	0.04-0.10	0.05-0.15	0.05-0.18	0.08-0.20	0.10-0.20
		Martensitic	820	240	13	25-75	0.04-0.10	0.05-0.15	0.05-0.18	0.08-0.20	0.10-0.20
M	Stainless steel	Austenitic	600	180	14	25-75	0.04-0.10	0.05-0.15	0.05-0.18	0.08-0.20	0.10-0.20
K	Grey cast iron (GG)	Ferritic/pearlitic		180	15	85-105	0.15-0.25	0.20-0.35	0.25-0.45	0.30-0.50	0.35-0.55
		Pearlitic		260	16	75-90	0.15-0.25	0.20-0.35	0.25-0.45	0.30-0.50	0.35-0.55
	Nodular cast iron (GGG)	Ferritic		160	17	65-80	0.12-0.20	0.15-0.25	0.20-0.35	0.25-0.40	0.30-0.45
		Pearlitic		250	18						
	Malleable cast iron	Ferritic		130	19						
		Pearlitic		230	20						
N	Aluminum- wrought alloy	Not cureable		60	21	70-300	0.10-0.25	0.15-0.35	0.25-0.45	0.30-0.50	0.35-0.55
		Cured		100	22	70-200					
	Aluminum- cast, alloyed	<=12% Si Not cureable		75	23	70-300	0.07-0.18	0.12-0.25	0.20-0.35	0.25-0.45	0.30-0.50
		Cured		90	24						
		>12% Si High temperature		130	25						
	Copper alloys	>1% Pb Free cutting		110	26						
		Brass		90	27						
		Electrolitic copper		100	28						
	Non-metallic	Duroplastics, fiber plastics			29						
		Hard rubber			30						
S	High temp. alloys	Fe based Annealed		200	31						
		Cured		280	32						
		Ni or Co based Annealed		250	33						
		Cured		350	34						
		Cast		320	35						
	Titanium Ti alloys		RM 400		36						
		Alpha-beta alloys cured	RM 1050		37	15-35	0.02-0.07	0.04-0.10	0.06-0.12	0.08-0.15	0.08-0.18
H	Hardened steel	Hardened		55 HRC	38	40-70	0.06-0.10	0.08-0.12	0.10-0.14	0.12-0.16	0.14-0.18
		Hardened		60 HRC	39						
	Chilled cast iron	Cast		400	40						
	Cast iron	Hardened		55 HRC	41						

As a starting value, the middle of the recommended machining range should be used, then (according to wear results), conditions can be changed in order to optimize performance.


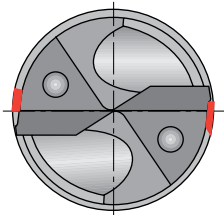
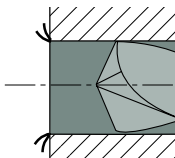
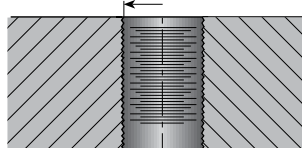
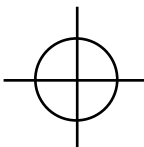
- When using external coolant supply only, reduce cutting speed by 10%
- Use internal coolant supply when machining austenitic stainless steel

⁽¹⁾ For workpiece materials list, see pages 495-524

Troubleshooting

Problem	Cause	Solution
Chipping on the chisel edge 	<ul style="list-style-type: none"> Poor clamping of the chuck Unsuitable cutting conditions Chisel runout Workpiece movement 	<ul style="list-style-type: none"> Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Decrease feed, increase coolant pressure. Check or replace the clamping adaptation. Increase workpiece chucking force.
Chipping on the cutting edges / built-up edge 	<ul style="list-style-type: none"> Poor clamping of the chuck Unsuitable cutting conditions Insufficient coolant Rough application 	<ul style="list-style-type: none"> Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Increase cutting speed, reduce feed rate. Check cooling lubricant. Increase coolant pressure. In the case of external coolant supply, improve jet direction and add cooling jets. Reduce feed rate by 30-50% during entry and exiting.
Excessive wear on the cutting corners 	<ul style="list-style-type: none"> Insufficient coolant Large runout Unsuitable cutting conditions Rough application Poor clamping of the chuck 	<ul style="list-style-type: none"> Check cooling lubricant. Increase coolant pressure. In the case of external coolant supply, improve jet direction and add coolant jets. Check if the runout is within 0.02 mm T.I.R. (radial & axial) Reduce cutting speed, increase feed. Reduce feed rate by 30-50% during entry and exit. Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system.
Chipping on the lands 	<ul style="list-style-type: none"> Workpiece movement Insufficient coolant Wrong drill Unsuitable cutting conditions 	<ul style="list-style-type: none"> Increase workpiece chucking force. Check cooling lubricant. Increase coolant pressure. In the case of external coolant supply, improve jet direction and add coolant jets. Check drill type, drilling depth, cooling system and workpiece material. Increase feed. When spot drilling, reduce feed.
Hole diameter out of tolerance 	<ul style="list-style-type: none"> Unsuitable cutting conditions Poor clamping of the chuck Large runout Worn out center point (chisel) 	<ul style="list-style-type: none"> If hole size is too large, increase cutting speed or reduce feed. If hole size is too small, reduce cutting speed or increase feed. Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Make sure that the drill's runout is within 0.02 mm (radial & axial). Regrind cutting edge or replace the drill.
Hole not straight 	<ul style="list-style-type: none"> Insufficient chip evacuation Poor clamping of the chuck Workpiece rigidity Worn out drill center point (chisel) Unsuitable cutting conditions 	<ul style="list-style-type: none"> Use pecking cycle. Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Increase workpiece chucking force. Regrind cutting edge. Increase feed. When spot drilling, reduce feed.

Troubleshooting

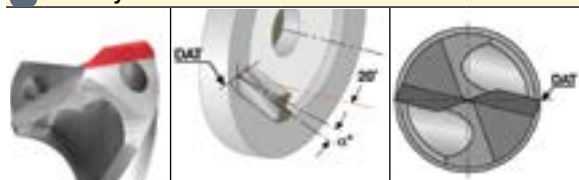
Problem	Cause	Solution
Drill breakage 	<ul style="list-style-type: none"> Poor clamping of the chuck Workpiece movement Wrong drill Insufficient coolant Unsuitable cutting conditions Worn out drill center point (chisel) Insufficient chip evacuation 	<ul style="list-style-type: none"> Check the clamping. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Increase workpiece chucking force. Check drill type and drilling depth, cooling system and workpiece material. Check cooling lubricant. Increase coolant pressure. In the case of external coolant supply, improve jet direction and add cooling jets. Reduce feed. Regrind cutting edge. Use pecking cycle.
Chipping on the cutting corners 	<ul style="list-style-type: none"> Poor clamping of the chuck Workpiece movement Wrong drill Insufficient coolant Unsuitable cutting conditions Worn out or broken cutting corner 	<ul style="list-style-type: none"> Check the clamping and adaptation. Use hydraulic clamping chuck, maxin power chuck or a shrink system. Increase workpiece chucking force. Check drill type and drilling depth, cooling system and workpiece material. Possibly use longer drill. Check cooling lubricant. Increase coolant pressure. In the case of external coolant supply, improve jet direction and add cooling jets. Check cutting parameters, and possibly reduce feed. Replace drill or regrind cutting edge.
Problem: Burrs on exit 	<ul style="list-style-type: none"> Unsuitable cutting conditions Worn out drill 	<ul style="list-style-type: none"> Reduce feed by 30-50% during exit. Replace drill.
Rough surface finish 	<ul style="list-style-type: none"> Unsuitable cutting conditions Large runout Chip jamming 	<ul style="list-style-type: none"> Adjust feed to improve chip flow. Make sure that the drill's runout is within 0.02 mm (radial & axial). Reduce cutting speed. Increase coolant pressure. Apply pecking procedure.
Deviation of hole position 	<ul style="list-style-type: none"> Large runout Poor stability Rough application 	<ul style="list-style-type: none"> Make sure that the drill runout is within 0.02 mm (radial & axial). Check and improve drill and workpiece clamping rigidity. When drilling hard materials or sloped surfaces, reduce feed by 30-50% during entrance. Use a short pilot drill with 140° point angle.

Regrinding Instructions

Regrinding Instructions for AP and ACP Geometries

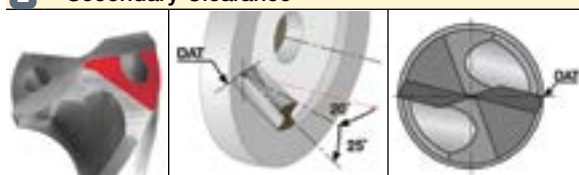
For each grinding operation, rotate the drill 180° and repeat the grinding procedure.

1 Primary Clearance



a°	D Range
7	0.8-6.0
10	>6.1

2 Secondary Clearance

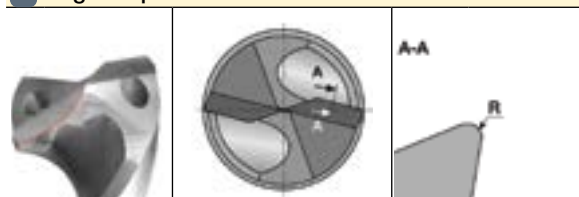


3 Chisel



a°	D Range
100	3.0-4.8
105	4.9-10
95	10.1-20

4 Edge Preparation



R	D Range
0.02	0.8-6.0
0.03	6.1-18.0
0.04	18.1>UP

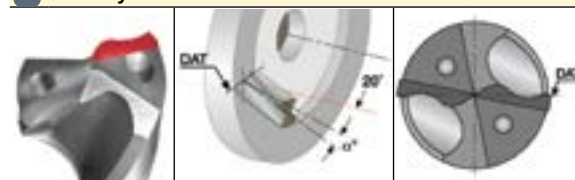
Grinding Wheel Recommended Specifications:

- 1 Diameter grinding wheel: GA2
- 2 Grinding wheel bond: synthetic resin
- 3 Grit size: 325/400 mesh (45/38μ)
- 4 Diamond concentration: C-75 (3.3 carat/cm³)
- 5 Cutting fluid emulsion 3%

Regrinding Instructions for AG and ACG Geometries

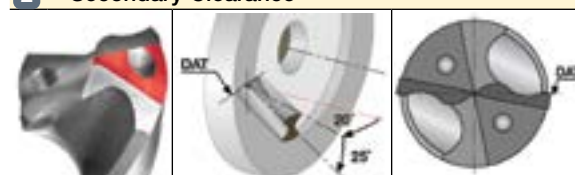
For each grinding operation, rotate the drill 180° and repeat the grinding procedure.

1 Primary Clearance

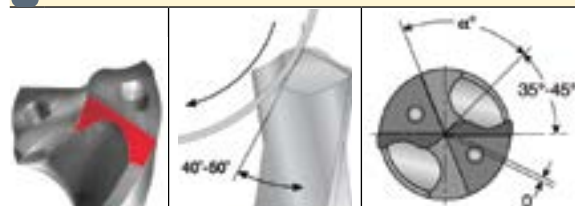


a°	D Range
7	0.8-6.0
10	>6.1

2 Secondary Clearance

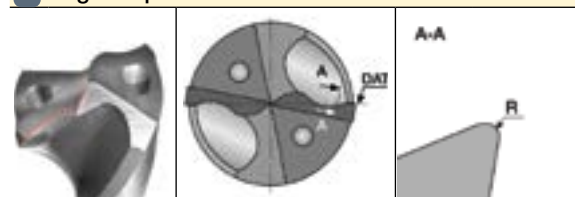


3 Chisel



a°	D Range
100	3.0-4.8
105	4.9-10
95	10.1-20

4 Edge Preparation



R	D Range
0.02	0.8-6.0
0.03	6.1-18.0
0.04	18.1>UP

Grinding Wheel Recommended Specifications:

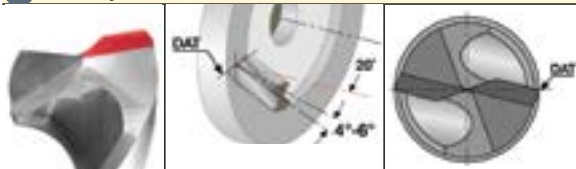
- 1 Diameter grinding wheel: GA2
- 2 Grinding wheel bond: synthetic resin
- 3 Grit size: 325/400 mesh (45/38μ)
- 4 Diamond concentration: C-75 (3.3 carat/cm³)
- 5 Cutting fluid emulsion 3%

Regrinding Instructions

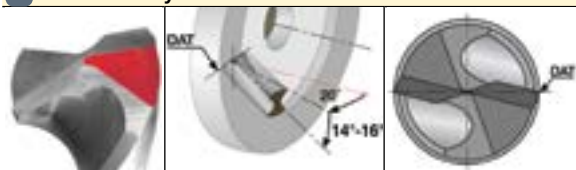
Regrinding Instructions for AH Geometry

For each grinding operation, rotate the drill 180° and repeat the grinding procedure.

1 Primary Clearance



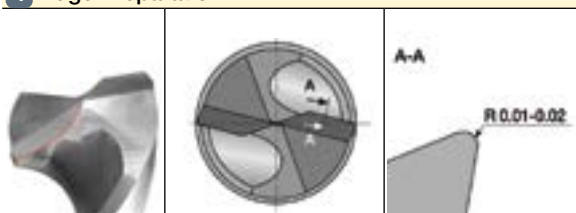
2 Secondary Clearance



3 Chisel



4 Edge Preparation



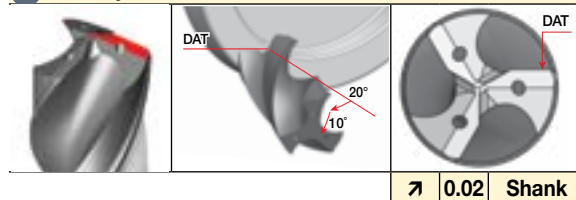
Grinding Wheel Recommended Specifications:

- 1 Diameter grinding wheel: GA2
- 2 Grinding wheel bond: synthetic resin
- 3 Grit size: 325/400 mesh (45/38μ)
- 4 Diamond concentration: C-75 (3.3 carat/cm³)
- 5 Cutting fluid emulsion 3%

Regrinding Instructions for 3 Flute SCCD Drills

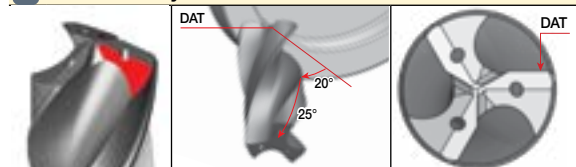
For each grinding operation, rotate the drill 180° and repeat the grinding procedure.

1 Primary Clearance

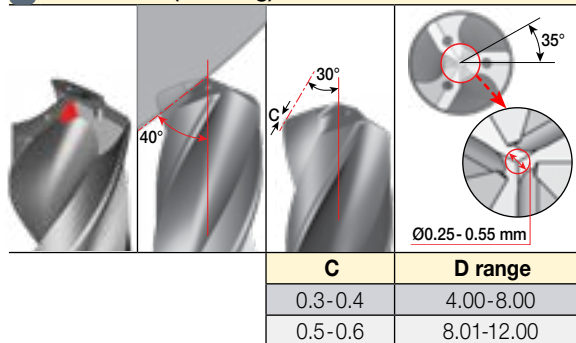


7 0.02 Shank

2 Secondary Clearance

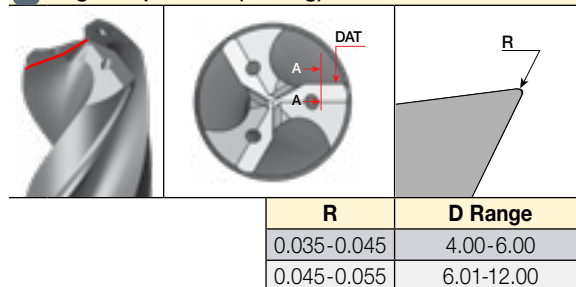


3 Grind chisel (Thinning)



C	D range
0.3-0.4	4.00-8.00
0.5-0.6	8.01-12.00

4 Edge Preparation (Honing)



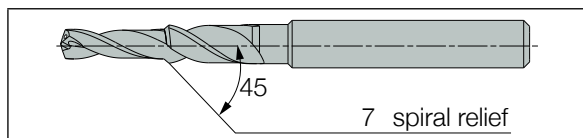
R	D Range
0.035-0.045	4.00-6.00
0.045-0.055	6.01-12.00

Grinding Wheel Recommended Specifications:

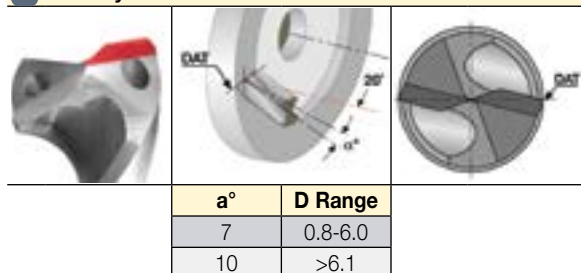
- 1 Diameter grinding wheel: GA2
- 2 Grinding wheel bond: synthetic resin
- 3 Grit size: 325/400 mesh (45/38μ)
- 4 Diamond concentration: C-75 (3.3 carat/cm³)
- 5 Cutting fluid emulsion 3

Regrinding Instructions for SCDT Pre-Thread Solid Drills

For each grinding operation, rotate the drill 180° and repeat the grinding procedure.



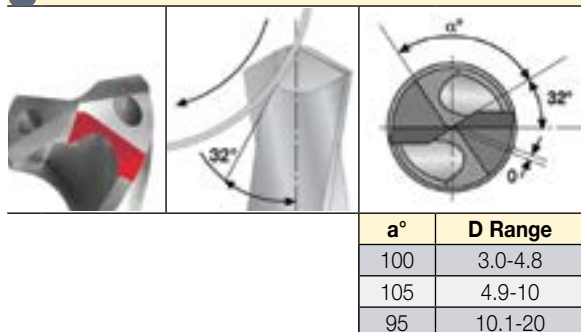
1 Primary Clearance



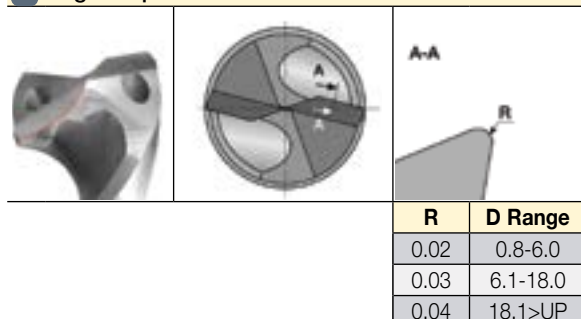
2 Secondary Clearance



3 Chisel



4 Edge Preparation



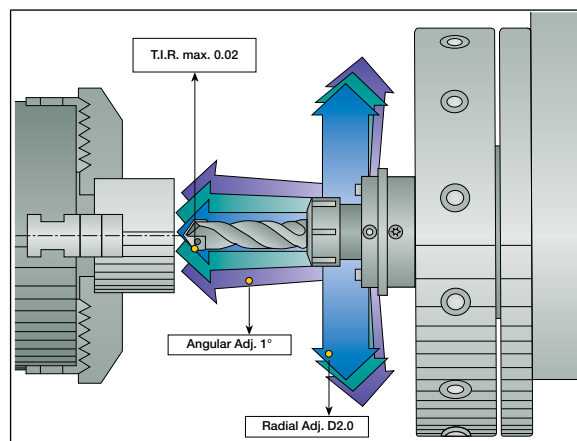
Grinding Wheel Recommended Specifications:

- 1 Diameter grinding wheel: GA2
- 2 Grinding wheel bond: synthetic resin
- 3 Grit size: 325/400 mesh (45/38μ)
- 4 Diamond concentration: C-75 (3.3 carat/cm³)
- 5 Cutting fluid emulsion 3%

GYRO Auxiliary Devices for Lathe Machines

Designed to Correct Misalignment on Stationary Operation

Drills can be used on sloped surfaces up to 6°. When drilling sloped surfaces of more than 6°, reduce feed by 30-50% during penetration of up to 5 mm depth, or use a spot or pre-hole drill to avoid drill deviation or poor drill performance.



General - Calculations

Spindle Speed (min⁻¹)

$$n = \frac{v_c \cdot 1000}{\pi \cdot D}$$

Cutting Speed (m/min)

$$v_c = \frac{\pi \cdot D \cdot n}{1000}$$

Table Feed (mm/min)

$$v_f = f \cdot n$$

Material Removal Rate (cm³/min)

$$Q = \frac{v_f \cdot \pi \cdot D^2}{4000}$$

Power Requirement (kW)

$$P_c = \frac{Q}{60.000 \cdot \eta} \cdot k_c \cdot \sin k$$

Torque (Nm)

$$M_c = \frac{f \cdot k_c}{1000} \cdot \frac{D^2}{8} \cdot \sin k \cdot km$$

Feed Force (approx.) (N)

$$F_f = 0.63 \cdot \frac{D}{2} \cdot f \cdot k_c \cdot \sin k \cdot kf$$

Machining Time (min/piece)

$$T_c = \frac{L+h}{v_f}$$

Machining Cost (\$/piece)

$$C_c = \frac{C_{Mh}}{60} \cdot T_c$$

f	Feed/rev mm/rev
k_c	Material specific cutting force N/mm ²
h	Distance from drill point to workpiece before feeding mm
L	Depth of hole mm
C_{Mh}	Cost/machine hour \$/h
η	Machine efficiency %
k	90° } 180° bottom drills
sin k	1 DR...
k	70° } 140° point angle drills
sin k	0.94

	Drill Geometry Coefficient		
	DCM	DCN	SCD
km	1	0.85	0.85
kf1	0.85	0.85	

Example

Drill DR 220-044-25-07-2D-N (Ø22 mm) - Material No. 4

$k_c=2200$ N/mm² $k=90^\circ$, $\sin k=1$
 $v_c=200$ m/min $C_{Mh}=50$ \$/h $\eta=0.75$
 $km=1$ $kf=1$ $f=0.15$ mm/rev $L=25$ mm $h=10$ mm

$$n = \frac{v_c \cdot 1000}{\pi \cdot D} \cdot \frac{200 \cdot 1000}{\pi \cdot 22} = 2894 \text{ min}^{-1}$$

$$V_f = f \cdot n = 0.15 \cdot 2894 = 434 \text{ mm/min}$$

$$Q = \frac{v_f \cdot \pi \cdot D^2}{4000} = \frac{434 \cdot 3.14 \cdot (22)^2}{4000} = 165 \text{ cm}^3/\text{min}$$

$$P_c = \frac{Q}{60.000 \cdot \eta} \cdot K_c \cdot \sin k = \frac{65}{60.000 \cdot 0.75} \cdot 2200 \cdot 1 = 8.06 \text{ kW}$$

$$M_c = \frac{f \cdot K_c}{10000} \cdot \frac{D^2}{8} \cdot \sin k = \frac{0.15 \cdot 2200}{10000} \cdot \frac{22^2}{8} \cdot 1 \cdot 1 = 20 \text{ Nm}$$

$$F_f = 0.63 \cdot \frac{D}{2} \cdot f \cdot K_c \cdot \sin k = 0.63 \cdot \frac{22}{2} \cdot 0.15 \cdot 2200 \cdot 1 \cdot 1 = 2286 \text{ N}$$

$$T_c = \frac{L+h}{V_f} = \frac{25+10}{434} = 0.08 \text{ min/piece}$$

$$C_c = \frac{C_{Mh}}{60} \cdot T_c = \frac{50 \cdot 0.08}{60} = 0.067 \text{ $/piece}$$

k_c Values

Material Group	k _c Value	Material Group	k _c Value
1	2000	19	900
2	2100	20	1000
3	2150	21	500
4	2200	22	800
5	2200	23	800
6	2100	26	700
7	2100	27	700
8	2100	28	1700
9	2100	31	3000
10	2500	32	3100
11	3250	33	3300
12	2300	34	3300
13	2800	35	3200
14	2600	36	1700
15	1100	37	1700
16	1300	38	4600
17	1100	39	4700
18	1800	40	4600
		41	4500