



TDR-2 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 2D:Φ13.0 ~ 60.0mm

Range of machining tolerance:-0.25~+0.25 Drilling depth: 2xdiameter

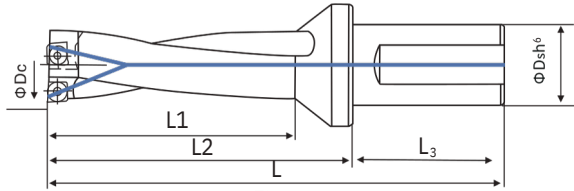


Fig.1



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
10		2D10-22SP04	●	85.5	22	35.5		SP..04T102	0.2
10.5		2D10.5-23SP04	●	86.5	22	35.5			0.2
11		2D11-24SP04	●	87.5	24	36.5			0.2
11.5		2D11.5-24SP04	●	88		34			0.2
12		2D12-26SP04	90	●		25		SP..050204	0.2
12.5		2D12.5-27SP04	93	●		27			0.2
13		2D13-29SP05	88	●		29			0.2
13.5	20	2D13.5-30SP05	89	●		30	45		0.2
14		2D14-31SP05	90	●	3	36		SP..060204	0.2
14.5		2D14.5-32SP05	91	●	1	47			0.2
15		2D15-33SP05	92	●	3	48			0.2
15.5		2D15.5-34SP05	93	●	2	49			0.2
16		2D16-35SP06	94	●	3	50		SP..07T308	0.2
16.5		2D16.5-36SP06	95	●	3	51			0.2
17		2D17-37SP06	96	●	3	52			0.2
17.5		2D17.5-38SP06	109	●	4	53			0.2
18		2D18-39SP06	110	●	3	54		SP..07T308	0.3
18.5		2D18.5-40SP06	111	●	5	55			0.3
19		2D19-41SP06	112	●	3	56			0.3
19.5		2D19.5-42SP06	113	●	6	57			0.3
20		2D20-43SP06	114	●	3	58		SP..090408	0.3
20.5		2D20.5-44SP06	115	●	7	59			0.3
21		2D21-45SP06	116		3	60			0.3
21.5	25	2D21.5-46SP06	●	117	8	61	56		0.3
22		2D22-47SP07	●	118	3	62		SP..07T308	0.4
22.5		2D22.5-48SP07	●	119	9	63			0.4
23		2D23-49SP07	●	123	4	67			0.4
23.5		2D23.5-50SP07	●	124	0	68			0.4
24		2D24-51SP07	●	125	4	69		SP..07T308	0.4
24.5		2D24.5-52SP07	●	126	1	70			0.4
25		2D25-53SP07	●	127	4	71			0.4
25.5		2D25.5-54SP07	●	134	2	74			0.6
26		2D26-55SP07	●	135	4	75		SP..090408	0.6
26.5		2D26.5-56SP07	●	136	3	76			0.6
27		2D27-57SP07	●	137	4	77			0.6
27.5		2D27.5-58SP07	●	138	4	78			0.6
28		2D28-59SP07/09	●	139	4	79		SP..07T308	0.6
28.5		2D28.5-60SP07/09	●	140	5	80			0.6
29		● 143			4	83			0.7
29.5		● 144			6	84	60		0.7
30	32	2D29.5-63SP09	●	148	4	88		SP..090408	0.7
30.5		2D30-64SP09	●	149	4	89			0.7
31		2D30.5-65SP09	●	150	4	90			0.7
31.5		2D31-66SP09	●	151	8	91			0.7
32		2D31.5-67SP09	●	152	7	92		SP..090408	0.8
32.5		2D32-68SP09	●	153	6	93			0.8
33		2D32.5-69SP09	●	154	9	94			0.8
33.5		2D33-70SP09	●	155	9	95			0.8
		2D33.5-71SP09			5				0.8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
34		2D34-72SP09/11	●	156	72	93		SP..090408	0.8
34.5		2D34.5-73SP09/11	●	157	74	95			0.8
35		2D35-74SP11	●	158	76	96			0.8
35.5		2D35.5-75SP11	●	159	77	101			0.8
36		2D36-76SP11	●	160	79	109		SP..110408	0.9
36.5	32	2D36.5-77SP11	●	161	80	110	60		0.9
37		2D37-79SP11	●	169	81	114			0.9
37.5		2D37.5-80SP11	●	170	82	113			0.9
38		2D38-81SP11	●	171	83	113		SP..140512	0.9
38.5		2D38.5-82SP11	●	172	84	114			0.9
39		2D39-83SP11	●	173	85	115			1.0
39.5		2D39.5-84SP11	●	174	86	116			1.1
40		2D40-85SP11	●	185	87	117		SP..140512	1.1
40.5		2D40.5-86SP11	○	186	88	118			1.1
41		2D41-87SP11	○	187	89	119			1.1
41.5		2D41.5-88SP11	○	188	90	120			1.1
42		2D42-89SP14	○	189	91	121		SP..140512	1.1
42.5		2D42.5-90SP14	○	190	92	122			1.3
43		2D43-91SP14	○	191	93	123			1.5
43.5		2D43.5-92SP14	○	192	94	124			1.5
44		2D44-93SP14	○	193	95	125		SP..140512	1.6
44.5		2D44.5-94SP14	○	194	96	126			1.6
45		2D45-95SP14	○	195	97	127			1.7
45.5		2D45.5-96SP14	○	196	98	128			1.7
46		2D46-97SP14	○	197	99	129		SP..140512	1.7
46.5		2D46.5-98SP14	○	198					1.8
47		2D47-99SP14	○	199					1.8
47.5		40 2D47.5-100SP14	○	200	100	130	70		1.8
48		2D48-101SP14	○	201	101	131		SP..140512	1.8
48.5		2D48.5-102SP14	○	202	102	132			1.8
49		2D49-103SP14	○	203	103	133			1.9
49.5		2D49.5-105SP14	○	204	104	134			1.9
50		2D50-105SP14	○	205	105	135		SP..140512	1.9
51		2D51-107SP14	○	207	107	137			2.0
52		2D52-109SP14	○	209	109	139			2.0
53		2D53-111SP14	○	211	111	141			2.1
54		2D54-113SP14	○	213	113	143		SP..140512	2.2
55		2D55-115SP14	○	215	115	145			2.3
56		2D56-120SP14	○	220	120	152			2.4
57		2D57-122SP14	○	222	122	154			2.5
58		2D58-124SP14	○	224	124	156		SP..140512	2.6
59		2D59-126SP14	○	226	126	158			2.7
60		2D60-128SP14	○	228	128	160			2.8

● Mark:Standard stock item,
No mark:Made to order item.

TDR-3 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 3D:Φ13.0 ~ 60.0mm

Range of machining tolerance:-0.25~+0.25 Drilling depth: 3xdiameter

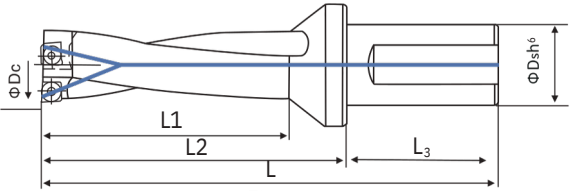


Fig.1

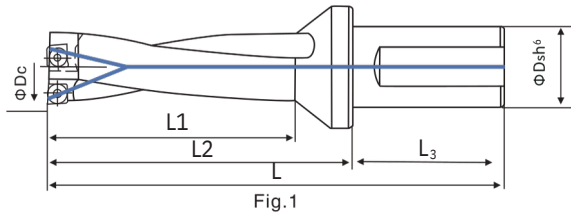


ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert			
10		3D10-32SP04	●	97	32	47	● 97.5	SP..04T102	0.2		
10.5		3D10.5-34SP04	34	47.5	●	98.5	34		0.2		
11		3D11-34SP04	48.5	●	100	37	50		●	0.2	
11.5		3D11.5-37SP04	102	38	52	●	105		41	0.2	
12		3D12-38SP04	55	●	101	42	57		●	0.2	
12.5		3D12.5-41SP04	103	44	59	44	●		104	0.2	
13		3D13-42SP05	45	60	●	106	47	62	●	SP..050204	0.2
13.5	20	3D13.5-44SP05	107	48	63	●	109	50	0.2		
14		3D14-45SP05	65	●	110	51	66	●	0.2		
14.5		3D14.5-47SP05	112	53	68	●	113	54	0.2		
15		3D15-48SP05	69	●	127	56	71	●	0.2		
15.5		3D15.5-50SP05	128	57	72	●	130	59	0.2		
16		3D16-51SP06	74	●	131	60	75	●	SP..060204	0.2	
16.5		3D16.5-53SP06	133	62	77	●	134	63		0.2	
17		3D17-54SP06	78	●	136	65	80	●		0.2	
17.5		3D17.5-56SP06	137	66	81	●		SP..060204		0.2	
18		3D18-57SP06	●	139	68	83				0.3	
18.5		3D18.5-59SP06	●	140	69	84				0.3	
19		3D19-60SP06	●	142	71	86			0.3		
19.5		3D19.5-62SP06	●	146	72	90			0.3		
20		3D20-63SP06	●	148	74	92			0.3		
20.5		3D20.5-65SP06	●	149	75	93		56	0.3		
21		3D21-66SP06	●	151	77	95			0.3		
21.5	25	3D21.5-68SP06	●	152	78	96			0.3		
22		3D22-69SP07	●	160	80	100			SP..07T308	0.4	
22.5		3D22.5-71SP07	●	161	81	101				0.4	
23		3D23-72SP07	●	163	83	103				0.4	
23.5		3D23.5-74SP07	●	164	84	104		0.4			
24		3D24-75SP07	●	166	86	106		0.4			
24.5		3D24.5-77SP07						0.4			
25		3D25-78SP07						SP..07T308	0.4		
25.5		3D25.5-80SP07							0.6		
26		3D26-81SP07							SP..07T308	0.6	
26.5		3D26.5-83SP07								0.6	
27		3D27-84SP07								0.6	
27.5		3D27.5-86SP07								0.6	
28		3D28-87SP07/09	●	167	87	107		SP..07T308		0.6	
28.5		3D28.5-89SP07/09	●	169	89	109				0.6	
29		● 172	91	112					SP..090408	0.7	
29.5		● 174	93	114	60					0.7	
30	32	3D29.5-93SP09	●	178	94	118				0.7	
30.5		3D30-94SP09	●	180	96	120				0.7	
31		3D30.5-96SP09	●	181	97	121		0.7			
31.5		3D31-97SP09	●	183	99	123		0.7			
32		● 184	100	124				SP..090408	0.7		
32.5		3D31.5-99SP09							0.8		
33		3D32-100SP09							0.8		
33.5		3D32.5-102SP09	●	186	102	126			0.8		
		● 187	103	127					0.8		
		3D33-103SP09									
		3D33.5-105SP09	●	189	105	129			0.8		

TDR-4 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 4D:Φ13.0 ~ 60.0mm

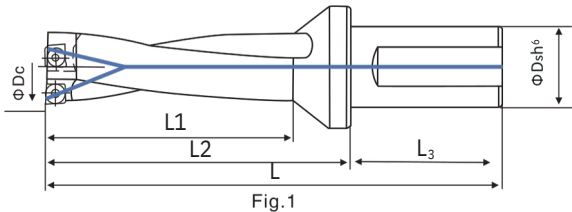
Range of machining tolerance:-0.30~+0.30 Drilling depth: 4xdiameter



TDR-5 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 5D:Φ13.0 ~ 60.0mm

Range of machining tolerance:-0.30~+0.30 Drilling depth: 5xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
11.5		4D11.5-47SP04	●	111	47	50	52	SP..04T102	0.2
12		4D12-50SP04	●	115	55	57	59		0.2
12.5		4D12.5-52SP04	●	117	61	6		SP..050204	0.2
13		4D13-55SP05	●	114	63	5			0.2
13.5		4D13.5-57SP05	●	116	65	6			0.2
14		4D14-59SP05	●	118	67	7			0.2
14.5	20	4D14.5-61SP05	●	120	69	7			0.2
15		4D15-63SP05	●	122	71	0		SP..060204	0.2
15.5		4D15.5-65SP05	●	124	73	7			0.2
16		4D16-67SP06	●	126	75	2			0.2
16.5		4D16.5-69SP06	●	128	77	7			0.2
17		4D17-71SP06	●	130	79	4			0.2
17.5		4D17.5-73SP06	●	144	81	7		SP..060204	0.2
18		4D18-75SP06	●	146	83	6			0.3
18.5		4D18.5-77SP06	●	148	85	10			0.3
19		4D19-79SP06	●	150	87	10			0.3
19.5		4D19.5-81SP06	●	152	89	10			0.3
20		4D20-83SP06	●	154	91	10		SP..07T308	0.3
20.5		4D20.5-85SP06	●	156	93	10			0.3
21		4D21-87SP06	●	158	95	11			0.3
21.5	25	4D21.5-89SP06	●	160	97	11			0.3
22		4D22-91SP07	●	162	99	11			0.4
22.5		4D22.5-93SP07	●	164	101	11		SP..07T308	0.4
23		4D23-95SP07	●	169	103	11			0.4
23.5		4D23.5-97SP07	●	171	105	12			0.4
24		4D24-99SP07	●	173	107	12			0.4
24.5		4D24.5-101SP07	●	175	109	12			0.4
25		4D25-103SP07	●	177	111	11		SP..07T308	0.4
25.5		4D25.5-105SP07	●	185	113	13			0.6
26		4D26-107SP07	●	187	115	13			0.6
26.5		4D26.5-109SP07	●	189	117	13			0.6
27		4D27-111SP07	●	191	120	14			0.6
27.5		4D27.5-113SP07	●	193	122	14		SP..07T308	0.6
28		4D28-115SP07/09	●	195	124	14			0.6
28.5		4D28.5-117SP07/09	●	197	126	15			0.6
29		197 4D29-120SP09	●	201	128	15			0.7
29.5		4D29.5-122SP09	●	203	130	15		SP..090408	0.7
30		4D30-124SP09	●	208	132	15			0.7
30.5	32	4D30.5-126SP09	●	210	134	15			0.7
31		4D31-128SP09	●	212	136	16			0.7
31.5		4D31.5-130SP09	●	214	138	16			0.7
32		4D32-132SP09	●	216	140	16		SP..090408	0.8
32.5		4D32.5-134SP09	●	218	142	16			0.8
33		4D33-136SP09	●	220	144	16			0.8
33.5		4D33.5-138SP09	●	222					0.8
34		4D34-140SP09/11	●	224					0.8
34.5		4D34.5-142SP09/11	●					SP..090408	0.8
35		226 4D35-144SP11	●	228				SP..110408	0.8
								SP..110408	0.8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
35.5		4D35.5-146SP11	●	230	146	170	148	SP..110408	0.8
36		4D36-148SP11	●	232	148	172	150		0.9
36.5		150SP11 ● 236 ● 243			153	183	155		0.9
37		4D37-153SP11			185	60	157		0.9
37.5		32 4D37.5-155SP11	●	245	187	159	189		0.9
38		4D38-157SP11	●	247	161	191	163	SP..110408	0.9
38.5		159SP11 ● 249 ● 251			193	165	195		0.9
39		4D39-161SP11	4D39.5-		167	197	169		1.0
39.5		163SP11 ● 253 ● 265			199	171	201		1.1
40		4D40-165SP11	4D40.5-		173	203	175		1.1
40.5		167SP11 ○ 267 ○ 269			205	177	207	SP..140512	1.1
41		4D41-169SP11	4D41.5-		179	209	181		1.1
41.5		171SP11 ○ 271 ○ 273			211	183	213		1.1
42		4D42-173SP14	4D42.5-		185	215	187		1.3
42.5		175SP14 ○ 275 ○ 277			217	189	219		1.3
43		4D43-177SP14	4D43.5-		191	221	193	SP..140512	1.5
43.5		179SP14 ○ 279 ○ 281			223	195	225		1.5
44		4D44-181SP14	4D44.5-		70	197	227		1.6
44.5		183SP14 ○ 283 ○ 285			199	229	201		1.6
45		4D45-185SP14	4D45.5-		231	203	233		1.7
45.5		187SP14 ○ 287 ○ 289			205	235	209	SP..140512	1.7
46		4D46-189SP14	4D46.5-		239	213	243		1.7
46.5		191SP14 ○ 291 ○ 293			217	247	221		1.7
47		4D47-193SP14			251	225	255		1.8
47.5		40 4D47.5-193SP14	○ 295		232	264	236		1.8
48		4D48-197SP14	4D48.5-		268	240	272	SP..140512	1.8
48.5		199SP14 ○ 299 ○ 301			244	276	248		1.8
49		4D49-201SP14	4D49.5-		280				1.9
49.5		204SP14 ○ 303 ○ 305 ○							1.9
50		4D50-205SP14	4D50.5-		317	○ 321			2.9
51		4D51-209SP14	4D51.5-		334	○ 338 ○		SP..140512	3.0
52		4D52-213SP14	4D52.5-		346	○ 350			3.1
53		4D53-217SP14							3.2
54		4D54-221SP14							3.3
55		4D55-225SP14							3.5
56		4D56-232SP14						SP..140512	3.7
57		4D57-236SP14							3.8
58		4D58-240SP14							4.0
59		4D59-244SP14							4.1
60		4D60-248SP14							4.1

◎ Spare Parts

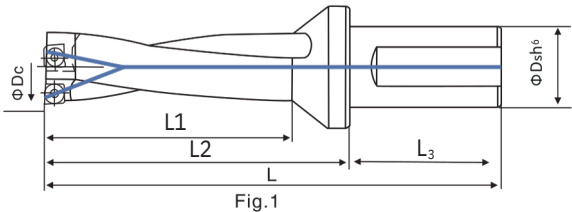
type	diameter	Blade model	Screw			Wrench
SP	15-15.5	Sp0	M2	X	5	T
	16-21.5	5	M2.2	X	5	7
	22-28.5	SP0	M2.5	X	6	T
		6				7
		SP0				T
		7				8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert		
13		5D13-68SP05	●	129	68	73	76	SP..050204	0.3	
13.5		5D13.5-71SP05	●	131	78	93	114		0.3	
14		5D14-73SP05	●	133		8			0.3	
14.5		5D14.5-76SP05	●	135		7			0.3	
15	20	5d15-78SP05	●	137		8			0.3	
15.5		5D15.5-80SP05	●	140	80	9			0.3	
16		5D16-83SP06	●	142	83	9			0.4	
16.5		5D16.5-86SP06	●	145	86	10			0.4	
17		5D17-88SP06	●	147	88	10			0.4	
17.5		5D17.5-91SP06	●	162	91	106		SP..060204	0.4	
18		5D18-93SP06	●	164	93	108			0.5	
18.5		5D18.5-96SP06	●	167	96	111			0.5	
19		5D19-98SP06	●	169	98	113			0.5	
19.5		5D19.5-101SP06	●	172	101	116			0.5	
20		5D20-106SP06	●	174	103	118			0.5	
20.5		5D20.5-106SP06	●	177	106	121			0.5	
21		5D21-108SP06	●	179	108	123			0.5	
21.5	25	5D21.5-111SP06	●	182	111	126			0.5	
22		5D22-113SP07	●	184	113	128			SP..07T308	0.5
22.5		5D22.5-116SP07	●	187	116	131				0.5
23		5D23-118SP07	●	192	118	136				0.6
23.5		5D23.5-121SP07	●	195	121	139		0.6		
24		5D24-123SP07	●	197	123	141		0.6		
24.5		5D24.5-126SP07	●	200	126	144		0.8		
25		5D25-128SP07	●	202	128	146		SP..07T308	0.8	
25.5		5D25.5-131SP07	●	213	131	153			0.8	
26		5D26-133SP07	●	216	133	156			0.8	
26.5		5D26.5-136SP07	●	217	136	157		SP..07T308 SP..090408	0.8	
27		5D27-138SP07	●	218	138	158			0.8	
27.5		5D27.5-141SP07	●	221	141	161			0.8	
28		5D28-143SP07/09	●	223	143	163		SP..07T308 SP..090408	0.9	
28.5		5D28.5-146SP07/09	●	146	166				0.9	
29		226 5D29-149SP09	●	230	149	170			0.9	
29.5		5D29.5-151SP05	●	233	151	173		SP..090408	0.9	
30		5D30-154SP09	●	238	154	178			1.0	
30.5		5D30.5-157SP09	●	241	157	181	60		1.0	
31	32	5D31-159SP09	●	243	159	183			1.0	
31.5		5D31.5-162SP09	●	245	162	185			1.0	
32		5D32-164SP09	●	248	164	188			1.1	
32.5		5D32.5-167SP09	●	251	167	191			1.1	
33		5D33-169SP09	●	253	169	193			1.1	
33.5		5D33.5-172SP09	●	255	172	195			1.1	
34		5D34-174SP11	●	258	174	198			1.2	
34.5		5D34.5-177SP11	●	261	177	201		SP..090408 SP..110408	1.2	
35		5D35-179SP11	●	263	179	203			1.2	
35.5		5D35.5-182SP11	●	265	182	205		SP..110408	1.2	

TOP-2 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 2D: φ 13.0 ~ 60.0mm

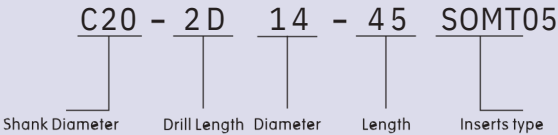
Range of machining tolerance:-0.25~+0.25 Drilling depth: 2xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
13		2D13-29SOMT05	●	88	2	4		SOMT050204	0.2
13.5		2D13.5-30SOMT05	●	89	9	4			0.2
14		2D14-31SOMT05	●	90	3	4			0.2
14.5	20	2D14.5-32SOMT05	●	91	0	5			0.2
15		/ 2D15-33SOMT05	●	92	3	4	44		0.2
15.5	25	2D15.5-34SOMT05	●	93	1	6			0.2
16		2D16-35SOMT05	●	94	3	4			0.2
16.5		2D16.5-36SOMT06	●	95	2	7			0.2
17		2D17-37SOMT06	●	96	3	4			0.2
17.5		2D17.5-38SOMT06	●	109	3	8		SOMT060204	0.2
18		2D18-39SOMT06	●	110	3	4			0.3
18.5		2D18.5-40SOMT06	●	111	4	9			0.3
19		2D19-41SOMT06	●	112	3	5			0.3
19.5		2D19.5-42SOMT07	●	113	5	0		SOMT070306	0.3
20		2D20-43SOMT07	●	114	3	5			0.3
20.5		2D20.5-44SOMT07	●	115	6	1			0.3
21		2D21-45SOMT07	●	116	3	5			0.3
21.5	25	2D21.5-46SOMT07	●	117	7	2	56		0.3
22		2D22-47SOMT07	●	118	3	5		SOMT08T306	0.4
22.5		2D22.5-48SOMT08	●	119	8	3			0.4
23		2D23-49SOMT08	●	123	3	5			0.4
23.5		2D23.5-50SOMT08	●	124	9	4			0.4
24		2D24-51SOMT08	●	125	4	5			0.4
24.5		2D24.5-52SOMT08	●	126	0	5			0.4
25		2D25-53SOMT08	●	127	4	5			0.4
25.5		2D25.5-54SOMT08	●	134	1	6		SOMT09T308	0.6
26		2D26-55SOMT08	●	135	4	5			0.6
26.5		2D26.5-56SOMT09	●	136	2	7			0.6
27		2D27-57SOMT09	●	137	4	5			0.6
27.5		2D27.5-58SOMT09	●	138	3	8			0.6
28		2D28-59SOMT09	●	139	4	5			0.6
28.5		2D28.5-60SOMT09	●	140	4	9			0.6
29		2D29-62SOMT09	●	143	4	6			0.7
29.5		2D29.5-63SOMT09	●	144	5	0			0.7
30		2D30-64SOMT09	●	148	4	6			0.7
30.5	32	2D30.5-65SOMT09	●	149	6	1	60	SOMT11T308	0.7
31		2D31-66SOMT09	●	150	4	6			0.7
31.5		2D31.5-67SOMT09	●	151	7	2			0.7
32		2D32-68SOMT11	●	152	4	6			0.8
32.5		2D32.5-69SOMT11	●	153	8	3			0.8
33		2D33-70SOMT11	●	154	4	6			0.8
33.5		2D33.5-71SOMT11	●	155	9	7			0.8
34		2D34-72SOMT11	●	156	5	6			0.8
34.5		2D34.5-73SOMT11	●	157	0	8			0.8
35		2D35-74SOMT11	●	158	5	6			0.8
35.5		2D35.5-75SOMT11	●	159	1	9			0.8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
36		2D36-76SOMT11	●	160	7	100		SOMT11T308	0.9
36.5		2D36.5-77SOMT11	○	161	6	101			0.9
37		2D37-79SOMT13	○	169	7	109		SOMT130408	0.9
37.5	32	2D37.5-80SOMT13	○	170	7	110	60		0.9
38		2D38-81SOMT13	○	171	7	111			0.9
38.5		2D38.5-82SOMT13	○	172	9	112			0.9
39		2D39-83SOMT13	○	173	8	113			1.0
39.5		2D39.5-84SOMT13	○	174	0	114			1.1
40	40	2D40-85SOMT13	○	185	8	115	70		1.1

Part number structure of SO type holder



Spare Parts

type	diameter	Blade model	Screw			Wrench
SO	13-16	S00	M2	X	5	T6
	16.5-19	5	M2.2	X	5	T7
	19.5-22	S00	M2.2	X	5	T7
	22.5-26	6	M2.5	X	6	T8
	26.5-31.5	S00	M3.5	X	8.5	T15
	32-36.5	7	M3.5	X	8.5	T15
SO	37-43	S00	M4	X	10	T20
	44-50	8	M5	X	11	T20

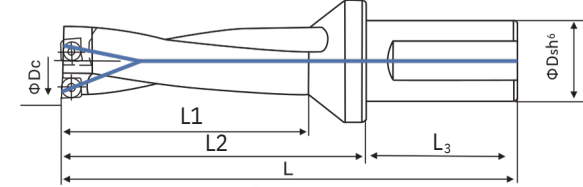
● Mark:Standard stock item,
No mark:Made to order item.

S00
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S01
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S01
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TOP-3 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 3D: φ 13.0 ~ 50.0mm

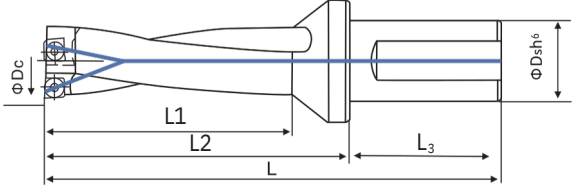
Range of machining tolerance:-0.25~+0.25 Drilling depth: 3xdiameter



TOP-4 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 4D: φ 14.0 ~ 50.0mm

Range of machining tolerance:-0.30~+0.30 Drilling depth: 4xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		3D13-42SOMT05	●	101	42	44	47	SOMT050204	0.2
13.5		3D13.5-44SOMT05	●	103	48	63	74		0.2
14		3D14-45SOMT05	●	104		5			0.2
14.5	20	3D14.5-47SOMT05	●	106		9			0.2
15	/	3D15-48SOMT05	●	107		6			0.2
15.5	25	3D15.5-50SOMT05	●	109	50	0			0.2
16		3D16-51SOMT05	●	110	51	0			0.2
16.5		3D16.5-53SOMT06	●	112	53	0			0.2
17		3D17-54SOMT06	●	113	54	6			0.2
17.5		3D17.5-56SOMT06	●	127	56	6		SOMT060204	0.2
18		3D18-57SOMT06	●	128	57	8			0.3
18.5		3D18.5-59SOMT06	●	130	59	6			0.3
19		3D19-60SOMT06	●	131	60	9		SOMT070306	0.3
19.5		3D19.5-62SOMT07	●	133	62	7			0.3
20		3D20-63SOMT07	●	134	63	1			0.3
20.5		3D20.5-65SOMT07	●	136	65	7			0.3
21		3D21-66SOMT07	●	137	66	2			0.3
21.5	25	3D21.5-68SOMT07	●	139	68	8	76	SOMT08T306	0.3
22		3D22-69SOMT07	●	140	69	4			0.4
22.5		3D22.5-71SOMT08	●	142	71	7			0.4
23		3D23-72SOMT08	●	146	72	5			0.4
23.5		3D23.5-74SOMT08	●	148	74	7			0.4
24		3D24-75SOMT08	●	149	75	7			0.4
24.5		3D24.5-77SOMT08	●	151	77	7			0.4
25		3D25-78SOMT08	●	152	78	8			0.4
25.5		3D25.5-80SOMT08	●	160	80	10		SOMT09T308	0.6
26		3D26-81SOMT08	●	161	81	10			0.6
26.5		3D26.5-83SOMT09	●	163	83	10			0.6
27		3D27-84SOMT09	●	164	84	10			0.6
27.5		3D27.5-86SOMT09	●	166	86	10			0.6
28		3D28-87SOMT09	●	167	87	10			0.6
28.5		3D28.5-89SOMT09	●	169	89	10			0.6
29		3D29-91SOMT09	●	172	91	11			0.7
29.5		3D29.5-93SOMT09	●	174	93	11			0.7
30		3D30-94SOMT09	●	178	94	11			0.7
30.5	32	3D30.5-96SOMT09	●	180	96	12	60	SOMT11T308	0.7
31		3D31-97SOMT09	●	181	97	12			0.7
31.5		3D31.5-99SOMT09	●	183	99	12			0.7
32		3D32-100SOMT11	●	184	100	12			0.8
32.5		3D32.5-102SOMT11	●	186	102	12			0.8
33		3D33-103SOMT11	●	187	103	12			0.8
33.5		3D33.5-105SOMT11	●	189	105	12			0.8
34		3D34-106SOMT11	●	190	106	13			0.8
34.5		3D34.5-108SOMT11	●	192	108	13			0.8
35		3D35-111SOMT11	●	193	109	13			0.8
35.5		3D35.5-111SOMT11	●	195	111	13			0.8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
36		3D36-112SOMT11	●	196	112	136	114	SOMT11T308	0.9
36.5		3D36.5-114SOMT11	○	198	138	116	146		0.9
37		3D37-136SOMT13	○	206	118	148		SOMT130408	0.9
37.5	32	3D37.5-181SOMT13	○	208	119	149	60		0.9
38		3D38-139SOMT13	○	209	121	151			0.9
38.5		3D38.5-121SOMT13	○	211	122	152			0.9
39		3D39-122SOMT13	○	212	124	154			1.0
39.5		3D39.5-124SOMT13	○	214	125	155	70		1.1
40	40	3D40-125SOMT13	○	225					1.1

SO钻头记号
Part number structure of SO type holder

C20 - 3D 14 - 45 SOMT05

接口尺寸 倍径 钻头尺寸 长度 刀片型号
Shank Diameter Drill Length Diameter Length Inserts type

◎ Spare Parts

type	diameter	Blade model	Screw			Wrench
SO	13-16	S00	M2	X	5	T6
	16.5-19	5	M2.2	X	5	T7
	19.5-22	S00	M2.2	X	5	T7
	22.5-26	6	M2.5	X	6	T8
	26.5-31.5	S00	M3.5	X	8.5	T15
	32-36.5	7	M3.5	X	8.5	T15
	37-43	S00	M4	X	10	T20
	44-50	8	M5	X	11	T20

● Mark:Standard stock item,
No mark:Made to order item.

S01
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ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		4D13-55SOMT05	●	114	55	57	59	SOMT050204	0.2
13.5		4D13.5-57SOMT05	●	116	63	78	104		0.2
14		4D14-59SOMT05	●	118		7			0.2
14.5	20	4D14.5-61SOMT05	●	120		2			0.2
15	/	4D15-63SOMT05	●	122		7			0.2
15.5	25	4D15.5-65SOMT05	●	124	6	0			0.2
16		4D16-67SOMT05	●	126	5	0			0.2
16.5		4D16.5-69SOMT06	●	128	6	0		SOMT060204	0.2
17		4D17-71SOMT06	●	130	7	2			0.2
17.5		4D17.5-73SOMT06	●	144	6	8			0.2
18		4D18-75SOMT06	●	146	9	4		SOMT070306	0.3
18.5		4D18.5-77SOMT06	●	148	7	8			0.3
19		4D19-79SOMT06	●	150	1	6			0.3
19.5		4D19.5-81SOMT07	●	152	7	8			0.3
20		4D20-83SOMT07	●	154	3	8			0.3
20.5		4D20.5-85SOMT07	●	156	5	10	0	SOMT08T306	0.3
21		4D21-87SOMT07	●	158	7	10	2		0.3
21.5	25	4D21.5-89SOMT07	●	160	8	10	2		0.3
22		4D22-91SOMT07	●	162	7	10	2		0.4
22.5		4D22.5-93SOMT08	●	164	9	10	8	SOMT09T308	0.4
23		4D23-95SOMT08	●	169	9	11	4		0.4
23.5		4D23.5-97SOMT08	●	171	9	11	8		0.4
24		4D24-99SOMT08	●	173	9	11	8		0.4
24.5		4D24.5-101SOMT08	●	175	10	11	8		0.4
25		4D25-103SOMT08	●	177	10	11	8	SOMT11T308	0.4
25.5		4D25.5-105SOMT08	●	185	10	12	5		0.6
26		4D26-107SOMT08	●	187	10	12	7		0.6
26.5		4D26.5-109SOMT08	●	189	10	12	9		0.6
27		4D27-111SOMT09	●	191	11	13	1		0.6
27.5		4D27.5-113SOMT09	●	193	11	13	3		0.6
28		4D28-115SOMT09	●	195	11	13	5		0.6
28.5		4D28.5-117SOMT09	●	197	11	13	7		0.6
29		4D29-120SOMT09	●	201	12	14	1		0.7
29.5		4D29.5-122SOMT09	●	203	12	14	3		0.7
30		4D30-124SOMT09	●	208	12	14	8	SOMT11T308	0.7
30.5	32	4D30.5-126SOMT09	●	210	12	15	0		0.7
31		4D31-128SOMT09	●	212	12	15	2		0.7
31.5		4D31.5-130SOMT09	●	214	13	15	4		0.7
32		4D32-132SOMT11	●	216	13	15	6		0.8
32.5		4D32.5-134SOMT11	●	218	13	15	8		0.8
33		4D33-136SOMT11	●	220	13	16	0		0.8
33.5		4D33.5-138SOMT11	●	222	13	16	2		0.8
34		4D34-140SOMT11	●	224	14	16	4		0.8
34.5		4D34.5-142SOMT11	●	226	14	16	6		0.8
35		4D35-144SOMT11	●	228	14	16	8		0.8
35.5		4D35.5-146SOMT11	●	230	14	16	10		0.8

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
36		4D36-148SOMT11	●	232	148	172	150	SOMT11T308	0.9
36.5		4D36.5-150SOMT11	○	236	174	153	183		0.9
37		4D37-153SOMT13	○	243	155	185		SOMT130408	0.9
37.5	32	4D37.5-155SOMT13	○	245	157	187	60		0.9
38		4D38-157SOMT13	○	247	159	189			0.9
38.5		4D38.5-159SOMT13	○	249	161	191			0.9
39		4D39-161SOMT13	○	251	163	193			1.0
39.5		4D39.5-163SOMT13	○	253	165	195	70		1.1
40	40	4D40-165SOMT13	○	265					1.1

SO钻头记号
Part number structure of SO type holder

C20 - 4D 14 - 59 SOMT05

接口尺寸 倍径 钻头尺寸 长度 刀片型号
Shank Diameter Drill Length Diameter Length Inserts type

◎ Spare Parts

type	diameter	Blade model	Screw			Wrench
SO	13-16	S00	M2	X	5	T6
	16.5-19	5	M2.2	X	5	T7
	19.5-22	S00	M2.2	X	5	T7
	22.5-26	6	M2.5	X	6	T8
	26.5-31.5	S00	M3.5	X	8.5	T15
	32-36.5	7	M3.5	X	8.5	T15
	37-43	S00	M4	X	10	T20
	44-50	8	M5	X	11	T20

● Mark:Standard stock item,
No mark:Made to order item.

S01
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S01
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TOP-5 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 5D: φ 16.0 ~ 50.0mm

Range of machining tolerance:-0.30~+0.30 Drilling depth: 5xdiameter

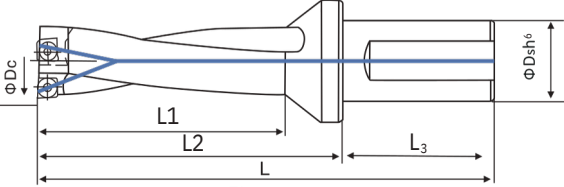
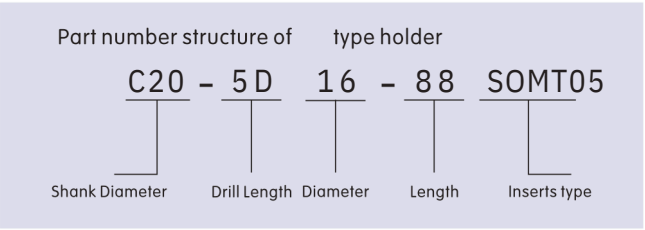


Fig.1



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
16	20	5D16-83SOMT05	●	142	83	98		SOMT050204	0.4
16.5	25	5D16.5-86SOMT05	●	145	86	101	44	SOMT060204	0.4
17		5D17-88SOMT06	●	147	88	103			0.4
17.5		5D17.5-91SOMT06	●	162	91	106			0.4
18		5D18-93SOMT06	●	164	93	108			0.5
18.5	25	5D18.5-96SOMT06	●	167	96	111		SOMT070306	0.5
19		5D19-98SOMT06	●	169	98	113			0.5
19.5		5D19.5-101SOMT07	●	172	101	116			0.5
20		5D20-107SOMT07	●	174	103	118			0.5
20.5		5D20.5-107SOMT07	●	177	106	121		SOMT08T306	0.5
21		5D21-108SOMT07	●	179	108	123			0.5
21.5		5D21.5-111SOMT07	●	182	111	126			0.5
22		5D22-113SOMT07	●	184	113	128			0.5
22.5		5D22.5-116SOMT08	●	187	116	131		SOMT09T308	0.5
23		5D23-118SOMT08	●	192	118	136			0.6
23.5	32	5D23.5-121SOMT08	●	195	121	139			0.6
24		5D24-123SOMT08	●	197	123	141			0.6
24.5		5D24.5-126SOMT08	●	200	126	144		SOMT11T308	0.8
25		5D25-128SOMT08	●	202	128	146			0.8
25.5		5D25.5-131SOMT08	●	213	131	153			0.8
26		5D26-133SOMT08	●	216	133	156			0.8
26.5		5D26.5-136SOMT09	●	217	136	159		SOMT130408	0.8
27		5D27-138SOMT09	●	218	138	160			0.8
27.5		5D27.5-141SOMT09	●	221	141	161			0.8
28		5D28-143SOMT09	●	223	143	163			0.9
28.5	32	5D28.5-146SOMT09	●	226	146	166		SOMT11T308	0.9
29		5D29-149SOMT09	●	230	149	170			0.9
29.5		5D29.5-151SOMT09	●	233	151	173			0.9
30		5D30-154SOMT09	●	238	154	178			1.0
30.5		5D30.5-157SOMT09	●	241	157	181		SOMT130408	1.0
31		5D31-159SOMT09	●	243	159	183			1.0
31.5		5D31.5-162SOMT10	●	245	162	185			1.0
32		5D32-164SOMT11	●	248	164	188	60		1.1
32.5		5D32.5-167SOMT11	●	251	167	191		SOMT130408	1.1
33		5D33-169SOMT11	●	253	169	193			1.1
33.5		5D33.5-172SOMT11	●	255	172	195			1.1
34	32	5D34-174SOMT11	●	258	174	198			1.2
34.5		5D34.5-177SOMT11	●	261	177	201		SOMT130408	1.2
35		5D35-179SOMT11	●	263	179	203			1.2
35.5		5D35.5-182SOMT11	●	265	182	205			1.2
36		5D36-184SOMT11	○	268	184	208		SOMT130408	1.3
36.5		5D36.5-187SOMT11	○	271	187	211			1.3
37		5D37-190SOMT13	○	280	190	220			1.3
37.5		5D37.5-193SOMT13	○	283	193	223			1.3
38		5D38-195SOMT13	○	285	195	225		SOMT130408	1.4
38.5		5D38.5-198SOMT13	○	288	198	228			1.4

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
39	32	5D39-200SOMT13	○	290	200	233	205	SOMT130408	1.9
39.5		5D39.5-203SOMT13	○	293	203	236	208		1.9
40	40	5D40-205SOMT13	○	305					1.9



◎ Spare Parts

type	diameter	Blade model	Screw			Wrench
SO	13-16	S00	M2	X	5	T6
	16.5-19	5	M2.2	X	5	T7
	19.5-22	S00	M2.2	X	5	T7
	22.5-26	6	M2.5	X	6	T8
	26.5-31.5	S00	M3.5	X	8.5	T15
	32-36.5	7	M3.5	X	8.5	T15
SO	37-43	S00	M4	X	10	T20
	44-50	8	M5	X	11	T20
		S00				
		9				
		S01				
		3				
		S01				
		5				

● Mark:Standard stock item,
No mark:Made to order item.

Customised Solution-0.2/0.3/0.4/0.7/0.8/0.9 (bottom hole of the t

Range of machining tolerance:-0.05 ~ +0.15

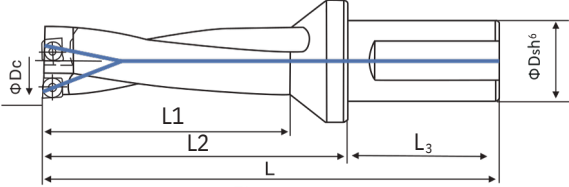


Fig.1



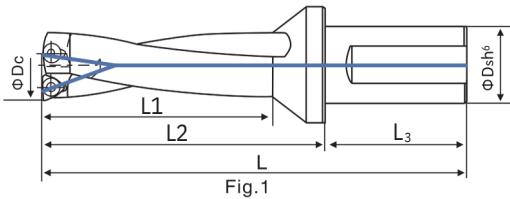
▲ H13/SKD61

刃徑 ΦDc	柄徑 ΦDs	型號 Specification/Item	刃徑 ΦDc	柄徑 ΦDs	型號 Specification/Item	刃徑 ΦDc	柄徑 ΦDs	型號 Specification/Item	刃徑 ΦDc	柄徑 ΦDs	型號 Specification/Item
8.8	20	KSD088-2D-S20-SP03	13.3	20	C20-3D13.3-42SP05	30.2	32	C32-3D30.2-94SP09	38.7	32	C32-3D38.7-121SP11
9		KSD090-2D-S20-SP03	14.8		C20-3D14.8-48SP05	30.3		C32-3D30.3-94SP09	38.8		C32-3D38.8-122SP11
9.3		KSD093-2D-S20-SP03	15.8		C20-3D15.8-50SP05	30.7		C32-3D30.7-96SP09	39.2		C32-3D39.2-122SP11
9.5		KSD095-2D-S20-SP03	16.3		C20-3D16.3-54SP06	30.8		C32-3D30.8-97SP09	39.3		C32-3D39.3-122SP11
10.5		KSD105-2D-S20-SP04	16.8		C20-3D16.8-53SP06	31.2		C32-3D31.2-97SP09	39.7		C32-3D39.7-124SP11
10.8		KSD108-2D-S20-SP04	17.3		C20-3D17.3-56SP06	31.2		C32-3D31.2-96SP09	39.8		C32-3D39.8-125SP11
11		KSD110-2D-S20-SP04	19.8		C25-3D19.8-62SP06	31.3		C32-3D31.3-99SP09	40.2		C32-3D40.2-125SP11
11.5		KSD115-2D-S20-SP04	20.8		C25-3D20.8-66SP06	31.7		C32-3D31.7-100SP09	40.7		C32-3D40.7-127SP11
12.5		KSD125-2D-S20-SP04	21.7		C25-3D21.7-68SP06	31.8		C32-3D31.8-100SP09	40.8		C32-3D40.8-128SP11
13		KSD125-2D-S20-SP04	21.8		C25-3D21.8-69SP07	32.2		C32-3D32.2-100SP09	41.2		C32-3D41.2-128SP11
14.5	25	KSD125-2D-S20-SP04	22.7	25	C25-3D22.7-71SP07	32.7	40	C32-3D32.7-103SP09	41.3	40	C32-3D41.3-129SP11
15		KSD125-2D-S20-SP04	22.8		C25-3D22.8-72SP07	32.8		C32-3D32.8-103SP09	41.7		C32-3D41.7-130SP11
16		KSD125-2D-S20-SP04	23.2		C25-3D23.2-72SP07	33.2		C32-3D33.2-103SP09	41.8		C32-3D41.8-130SP11
16.5		KSD125-2D-S20-SP04	23.3		C25-3D23.3-72SP07	33.3		C32-3D33.3-105SP09	42.2		C32-3D42.2-131SP14
17		KSD125-2D-S20-SP04	23.8		C25-3D23.8-75SP07	33.7		C32-3D33.7-105SP09	42.8		C32-3D42.8-134SP14
18		KSD125-2D-S20-SP04	24.3		C25-3D24.3-77SP07	33.8		C32-3D33.8-106SP11	42.7		C32-3D42.7-134SP14
18.5		KSD125-2D-S20-SP04	24.8		C25-3D24.8-77SP07	34.2		C32-3D34.2-106SP11	43.7		C32-3D43.7-137SP14
19		KSD125-2D-S20-SP04	25.5		C25-3D25.5-77SP07	34.3		C32-3D34.3-106SP11	43.8		C32-3D43.8-137SP14
20		KSD125-2D-S20-SP04	26.7		C25-3D26.7-83SP07	34.8		C32-3D34.8-109SP11	44.7		C32-3D44.7-140SP14
20.5		KSD125-2D-S20-SP04	26.8		C25-3D26.8-84SP07	35.2		C32-3D35.2-109SP11	44.8		C32-3D44.8-140SP14
21	32	KSD125-2D-S20-SP04	27.2	32	C32-3D27.2-84SP07	35.3		C32-3D35.3-108SP11	45.2		C32-3D45.2-140SP14
22		KSD125-2D-S20-SP04	27.3		C32-3D27.3-84SP07	35.7		C32-3D35.7-111SP11	46.2		C32-3D46.2-143SP14
22.5		KSD125-2D-S20-SP04	27.7		C32-3D27.7-84SP07	35.8		C32-3D35.8-112SP11	48.2		C32-3D48.2-149SP14
23		KSD125-2D-S20-SP04	27.8		C32-3D27.8-84SP07	36.2		C32-3D36.2-112SP11	49.2		C32-3D49.2-152SP14
25		KSD125-2D-S20-SP04	27.9		C32-3D27.9-84SP07	36.3		C32-3D36.3-114SP11	50.2		C32-3D50.2-155SP14
25.5		KSD125-2D-S20-SP04	28.3		C32-3D28.3-89SP09	36.7		C32-3D36.7-116SP11			
26		KSD125-2D-S20-SP04	28.7		C32-3D28.7-91SP09	36.8		C32-3D36.8-116SP11			
26.5		KSD125-2D-S20-SP04	28.8		C32-3D28.8-91SP09	37.2		C32-3D37.2-116SP11			
27		KSD125-2D-S20-SP04	28.9		C32-3D28.9-91SP09	37.3		C32-3D37.3-118SP11			
28		KSD125-2D-S20-SP04	29.2		C32-3D29.2-93SP09	37.7		C32-3D37.7-118SP11			
28.5	32	KSD125-2D-S20-SP04	29.3		C32-3D29.3-93SP09	38.2		C32-3D38.2-119SP11			
29		KSD125-2D-S20-SP04	29.8		C32-3D29.8-94SP09	38.3		C32-3D38.3-119SP11			
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									
		KSD125-2D-S20-SP04									



WC -2 X D (Φ 13-100) Indexable drills with WC inserts

Holder diameter 2D:Φ10.0 ~ 80.0mm



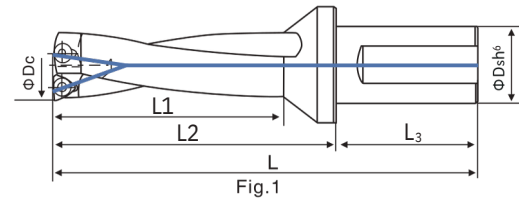
Range of machining tolerance:-0.25~+0.25 Drilling depth: 2xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert		ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
10		2D10-22WC02	●	85.5	22	35.5		WC..020104	0.2	35.5		2D35.5-75WC06	●	159	75	99		WC..06T308	0.8
10.5		2D10.5-23WC02	●	86.5	22	35.5			0.2	36		2D36-76WC06	●	160	76	100			0.9
11		2D11-24WC02	●	87.5	24	36.5			0.2	36.5		2D36.5-77WC06	●	161	77	101			0.9
11.5		2D11.5-24WC02	●	88	24	3			0.2	37		2D37-79WC06	●	169	79	109			0.9
12		2D12-26WC02	●	90	25	8			0.2	37.5	32	2D37.5-80WC06	●	170	80	110	60		0.9
12.5		2D12.5-27WC02	●	93	27	4			0.2	38		2D38-81WC06	●	171	81	111			0.9
13		2D13-29WC02	●	88	29	0			0.2	38.5		2D38.5-82WC06	●	172	82	112			0.9
13.5		2D13.5-30WC02	●	89	30	44			0.2	39		2D39-83WC06	●	173	83	113			1.0
14		2D14-31WC02/03	●	90	46	3			0.2	39.5		2D39.5-84WC06	●	174	84	114			1.1
14.5		2D14.5-32WC02/03	●	91	47	4			0.2	40		2D40-85WC06	●	185	85	115			1.1
15	20	2D15-33WC03	●	92	48	4		WC..030208	0.2	41		2D41-87WC06	●	187	87	117		WC..080412	1.1
15.5		2D15.5-34WC03	●	93	49				0.2	42		2D42-89WC08	●	189	89	119			1.1
16	25	2D16-35WC03	●	94	50				0.2	43		2D43-91WC08	●	191	91	121			1.5
16.5		2D16.5-36WC03	●	95	51				0.2	44		2D44-93WC08	●	193	93	123			1.6
17		2D17-37WC03	●	96	52				0.2	45		2D45-95WC08	●	195	95	125			1.7
17.5		2D17.5-38WC03	●	109	53				0.2	46		2D46-97WC08	●	197	97	127			1.7
18		2D18-39WC03	●	110	54				0.3	47		2D47-99WC08	●	199	99	129			1.8
18.5		2D18.5-40WC03	●	111	55				0.3	48		2D48-101WC08	●	201	101	131			1.8
19		2D19-41WC03	●	112	56				0.3	49		2D49-103WC08	●	203	103	133			1.9
19.5		2D19.5-42WC03	●	113	57				0.3	50		2D50-105WC08	●	205	105	135			1.9
20		2D20-43WC03	●	114	58			WC..040208	0.3	51		2D51-107WC08	●	207	107	137		WC..06T308	2.0
20.5		2D20.5-44WC03	●	115	59				0.3	52		2D52-109WC08	●	209	109	139			2.0
21		2D21-45WC04	●	116	60				0.3	53		2D53-111WC08	●	211	111	141			2.1
21.5	25	2D21.5-46WC04	●	117	61	56			0.3	54		2D54-113WC08	●	213	113	143			2.2
22		2D22-47WC04	●	118	62				0.4	55		2D55-115WC08	●	215	115	145			2.3
22.5		2D22.5-48WC04	●	119	63				0.4	56		2D56-120WC08	●	222	120	152			2.4
23		2D23-49WC04	●	123	67				0.4	57		2D57-122WC08	●	224	122	154			2.5
23.5		2D23.5-50WC04	●	124	68				0.4	58		2D58-124WC08	●	226	124	156			2.6
24		2D24-51WC04	●	125	69				0.4	59		2D59-126WC08	●	228	126	158			2.7
24.5		2D24.5-52WC04	●	126	70				0.4	60	40	2D60-128WC08	●	230	128	160	70		2.8
25		2D25-53WC05	●	127	71			WC..050308	0.4	61		2D61-130WC06	●	232	130	162		WC..06T308	
25.5		2D25.5-54WC05	●	134	74				0.6	62		2D62-132WC06	●	234	132	164			
26		2D26-55WC05	●	135	75				0.6	63		2D63-134WC06	●	236	134	166			
26.5		2D26.5-56WC05	●	136	76				0.6	64		2D64-136WC06	●	238	136	168			
27		2D27-57WC05	●	137	77				0.6	65		2D65-138WC06	●	240	138	170			
27.5		2D27.5-58WC05	●	138	78				0.6	66		2D66-140WC06	●	242	140	172			
28		2D28-59WC05	●	139	79				0.6	67		2D67-142WC06	●	244	142	174			
28.5		2D28.5-60WC05	●	140	80				0.6	68		2D68-144WC06	●	246	144	176			
29		2D29-62WC05	●	143	83				0.7	69		2D69-146WC06	●	248	146	178			
29.5		2D29.5-63WC05	●	144	84				0.7	70		2D70-148WC06	●	250	148	180			
30		2D30-64WC05	●	148	88			WC..06T308	0.7	71		2D71-150WC06	●	252	150	182			
30.5		2D30.5-65WC05	●	149	89				0.7	72		2D72-152WC06	●	254	152	184			
31	32	2D31-66WC06	●	150	90	60			0.7	73		2D73-154WC06	●	256	154	186			
31.5		2D31.5-67W06	●	151	91				0.7	74		2D74-156WC06	●	258	156	188			
32		2D32-68WC06	●	152	92				0.8	75		2D75-158WC06	●	260	158	190			
32.5		2D32.5-69WC06	●	153	93				0.8	76		2D76-160WC06	●	262	160	192			
33		2D33-70WC06	●	154	94				0.8	77		2D77-162WC06	●	264	162	194			
33.5		2D33.5-71WC06	●	155	95				0.8	78		2D78-164WC06	●	266	164	196			
34		2D34-72WC06	●	156	96				0.8	79		2D79-166WC06	●	268	166	198			
34.5		2D34.5-73WC06	●	157	97				0.8	80		2D80-168WC06	●	270	168	200			
35		2D35-74WC06	●	158	98				0.8										

WC -3 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 3D:Φ10.0 ~ 80.0mm



Range of machining tolerance:-0.25~+0.25 Drilling depth: 3xdiameter

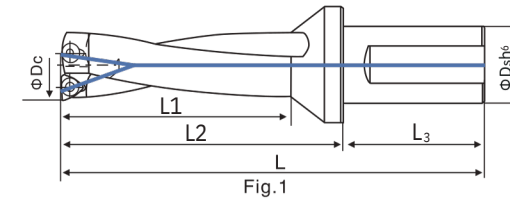


ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
10		3D10-32WC02	● 97	32	47	● 97.5		WC..020104	0.2
10.5		3D10.5-34WC02	34	47.5	● 98.5	34			0.2
11	20	3D11-34WC02	48.5						0.2
11.5		3D11.5-37WC02	● 100	37	50				0.2
12		3D12-38WC02	● 102	38	52				0.2
12.5		3D12.5-41WC02	● 105	41	55			WC..02010	0.2
13		3D13-42WC02	● 101	42	57				0.2
13.5		3D13.5-44WC02	● 103	44	59	44			0.2
14		3D14-45WC02/03	● 104	45	60				0.2
14.5	20	3D14.5-47WC02/03	● 106	47	62				0.2
15		/ 3D15-48WC03	● 107	48	63			WC..03020	0.2
15.5	25	3D15.5-50WC03	● 109	50	65				0.2
16		3D16-51WC03	● 110	51	66				0.2
16.5		3D16.5-53WC03	● 112	53	68				0.2
17		3D17-54WC03	● 113	54	69				0.2
17.5		3D17.5-56WC03	● 127	56	71			WC..030208	0.3
18		3D18-57WC03	● 128	57	72				0.3
18.5		3D18.5-59WC03	● 130	59	74				0.3
19		3D19-60WC03	● 131	60	75				0.3
19.5		3D19.5-62WC03	● 133	62	77				0.3
20		3D20-63WC03	● 134	63	78			WC..040208	0.4
20.5		3D20.5-65WC03	● 136	65	80				0.4
21		3D21-66WC04	● 137	66	81				0.4
21.5	25	3D21.5-68WC04	● 139	68	83		56		0.4
22		3D22-69WC04	● 140	69	84				0.4
22.5		3D22.5-71WC04	● 142	71	86			WC..040208	0.4
23		3D23-72WC04	● 146	72	90				0.4
23.5		3D23.5-74WC04	● 148	74	92				0.4
24		3D24-75WC04	● 149	75	93				0.4
24.5		3D24.5-77WC04	● 151	77	95				0.4
25		3D25-78WC05	● 152	78	96			WC..050308	0.4
25.5		3D25.5-80WC05	● 160	80	100				0.6
26		3D26-81WC05	● 161	81	101				0.6
26.5		3D26.5-83WC05	● 163	83	103				0.7
27		3D27-84WC05	● 164	84	104				0.7
27.5		3D27.5-86WC05	● 166	86	106			WC..050308	0.7
28		3D28-87WC05	● 167	87	107				0.7
28.5		3D28.5-89WC05	● 169	89	109				0.7
29		3D29-91WC05	● 172	91	112				0.7
29.5		3D29.5-93WC05	● 174	93	114				0.7
30		3D30-94WC05	● 178	94	118			WC..06T308	0.7
30.5	32	3D30.5-96WC05	● 180	96	120		60		0.8
31		3D31-97WC06	● 181	97	121				0.8
31.5		3D31.5-99WC06	● 183	99	123				0.8
32		3D32-100WC06	● 184	100	124				0.9
32.5		3D32.5-102WC06	● 186	102	126			WC..06T308	0.9
33		3D33-103WC06	● 187	103	127				0.9
33.5		3D33.5-105WC06	● 189	105	129				0.9
34		3D34-106WC06	● 190	106	130				0.9
34.5		3D34.5-108WC06	● 192	108	132				1.0
35		3D35-109WC06	● 193	109	133				1.0

● Mark:Standard stock item,
No mark:Made to order item.

WC -4 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 4D:Φ10.0 ~ 70.0mm



Range of machining tolerance:-0.30~+0.30 Drilling depth: 4xdiameter

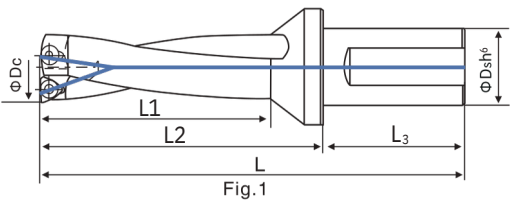


ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
11.5		4D11.5-47WC02	● 111	47	6			WC..020104	0.2
12	20	4D12-50WC02	● 115	50	1				0.2
12.5		4D12.5-52WC02	● 117	52	6				0.2
13		4D13-55WC02	● 114	55	5				0.2
13.5		4D13.5-57WC02	● 116	57	6				0.2
14		4D14-59WC02/03	● 118	59	7			WC..02010	0.2
14.5	20	4D14.5-61WC02/03	● 120	61	7				0.2
15	/ 40	4D15-63WC03	● 122	63	0				0.2
15.5	25	4D15.5-65WC03	● 124	65	7				0.2
16		4D16-67WC03	● 126	67	2				0.3
16.5		4D16.5-69WC03	● 128	69	7			WC..030208	0.3
17		4D17-71WC03	● 130	71	4				0.3
17.5		4D17.5-73WC03	● 144	73	7				0.3
18		4D18-75WC03	● 146	75	6				0.4
18.5		4D18.5-77WC03	● 148	77	7				0.4
19		4D19-79WC03	● 150	79	8			WC..040208	0.4
19.5		4D19.5-81WC03	● 152	81	8				0.4
20		4D20-83WC03	● 154	83	0				0.4
20.5		4D20.5-85WC03	● 156	85	100				0.4
21		4D21-87WC04	● 158	87	102				0.4
21.5	25	4D21.5-89WC04	● 160	89	104		56	WC..040208	0.4
22		4D22-91WC04	● 162	91	106				0.4
22.5		4D22.5-93WC04	● 164	93	108				0.4
23		4D23-95WC04	● 169	95	113				0.5
23.5		4D23.5-97WC04	● 171	97	115				0.5
24		4D24-99WC04	● 173	99	117			WC..050308	0.5
24.5		4D24.5-101WC04	● 175	101	119				0.7
25		4D25-103WC05	● 177	103	121				0.7
25.5		4D25.5-105WC05	● 185	105	125				0.7
26		4D26-107WC05	● 187	107	127				0.7
26.5		4D26.5-109WC05	● 189	109	129			WC..050308	0.7
27		4D27-111WC05	● 191	111	131				0.7
27.5		4D27.5-113WC05	● 193	113	133				0.7
28		4D28-115WC05	● 195	115	135				0.8
28.5		4D28.5-117WC05	● 197	117	137				0.8
29		4D29-120WC05	● 201	120	141			WC..06T308	0.8
29.5		4D29.5-122WC05	● 203	122	143				0.8
30		4D30-124WC05	● 208	124	148				0.9
30.5		4D30.5-126WC05	● 210	126	150				0.9
31			● 212	128	152	60			0.9
31.5	32	4D31-128WC06	● 214	130	154			WC..06T308	0.9
32		4D31.5-130WC06	● 216	132	156				1.0
32.5		4D32-132WC06	● 218	134	158				1.0
33		4D32.5-134WC06	● 220	136	160				1.0
33.5		4D33-136WC06	● 222	138	162				1.0
34		4D33.5-138WC06	● 224	140	164			WC..06T308	1.1
34.5		4D34-140WC06	● 226	142	166				1.1
35		4D34.5-142WC06	● 228	144	168				1.1
35.5		4D35-144WC06	● 230	146	170				1.1
36		4D35.5-146WC06	● 232	148	172				1.2
36.5		4D36-148WC06	● 236	150	174				1.2
		4D36.5-150WC06							

● Mark:Standard stock item,
No mark:Made to order item.

WC -5 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 5D:Φ15.0 ~ 100.0mm



Range of machining tolerance:-0.30~+0.30 Drilling depth: 5xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		5D13-68WC02	●	129	68	8		WC..020104	
13.5		5D13.5-71WC02	●	131	71	5			
14		5D14-73WC03	●	133	73	8			
14.5	20	5D14.5-76WC03	●	135	76	7			
15	5	5D15-78WC03	●	137	78	9	34	WC..030208	
15.5	25	5D15.5-81WC03	●	140	81	8	36		
16		5D16-83WC03	●	142	83	8	38		0.4
16.5		5D16.5-86WC03	●	145	86	9	41		0.4
17		5D17-88WC03	●	147	88	9	43		0.4
17.5		5D17.5-91WC03	●	150	91	9	46		0.4
18		5D18-93WC03	●	152	93	9	48		0.5
18.5		5D18.5-96WC03	●	155	96	10	51		0.5
19		5D19-98WC03	●	157	98	10	53		0.5
19.5		5D19.5-101WC03	●	160	101	10	56		0.5
20		5D20-103WC03	●	162	103	10	58		0.5
20.5		5D20.5-106WC03	●	165	106	10	61		0.5
21		5D21-108WC04	●	167	108	10	63	WC..040208	0.5
21.5	25	5D21.5-111WC04	●	170	111	10	66		0.5
22		5D22-113WC04	●	172	113	11	68		0.5
22.5		5D22.5-116WC04	●	175	116	11	71		0.5
23		5D23-118WC04	●	177	118	11	73		0.6
23.5		5D23.5-121WC04	●	180	121	11	76		0.6
24		5D24-123WC04	●	182	123	11	78		0.6
24.5		5D24.5-126WC04	●	185	126	11	81		0.8
25		5D25-128WC05	●	187	128	12	83		0.8
25.5		5D25.5-131WC05	●	190	131	12	86		0.8
26		5D26-133WC05	●	192	133	12	88	WC..050308	0.8
26.5		5D26.5-136WC05	●	195	136	12	91		0.8
27		5D27-138WC05	●	197	138	12	93		0.8
27.5		5D27.5-141WC05	●	200	141	12	96		0.8
28		5D28-143WC05	●	202	143	13	98		0.8
28.5		5D28.5-146WC05	●	205	146	13	101		0.9
29		5D29-149WC05	●	207	149	13	103		0.9
29.5		5D29.5-151WC05	●	210	151	13	106		0.9
30		5D30-154WC05	●	212	154	13	108		1.0
30.5		5D30.5-157WC05	●	215	157	13	111		1.0
31		5D31-159WC06	●	217	159	13	113	WC..06T308	1.0
31.5		5D31.5-162WC06	●	220	162	13	116		1.0
32	32	5D32-164WC06	●	222	164	13	118		1.0
32.5		5D32.5-167WC06	●	225	167	13	121		1.1
33		5D33-169WC06	●	227	169	13	123		1.1
33.5		5D33.5-172WC06	●	230	172	13	126		1.1
34		5D34-174WC06	●	232	174	13	128		1.1
34.5		5D34.5-177WC06	●	235	177	13	131		1.2
35		5D35-179WC06	●	237	179	13	133		1.2
35.5		5D35.5-182WC06	●	240	182	13	136		1.2
36		5D36-184WC06	●	242	184	13	138		1.3
36.5		5D36.5-187WC06	●	245	187	13	141		1.3
37		5D37-190WC06	●	247	190	13	143		1.3
37.5		5D37.5-193WC06	●	250	193	13	146		1.3
38		5D38-195WC06	●	252	195	13	148		1.4

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
38.5		5D38.5-198WC06	●	288	198	228	200	WC..06T308	1.4
39	32	5D39-200WC06	●	290	200	230	203		1.9
39.5		5D39.5-203WC06	●	293	203	233	205		1.9
40		5D40-205WC06	●	305	210	240	215		1.9
41		5D41-210WC06	○	310	215	245	220	WC..080412	2.0
42		5D42-215WC08	○	315	225	255	230		2.1
43		5D43-220WC08	○	320	230	260	235		2.2
44		5D44-225WC08	○	325	240	270	245		2.3
45		5D45-230WC08	○	330	245	275	250		2.4
46		5D46-235WC08	○	335	255	285	260		2.5
47		5D47-240WC08	○	340	260	290	265		2.6
48		5D48-245WC08	○	345	270	300	275		2.7
49		5D49-250WC08	○	350	280	310	280		2.8
50		5D50-255WC08	○	355	285	315	285		2.9
51		5D51-260WC08	○	360	295	320	300		3.0
52		5D52-265WC08	○	365	305	325	305		3.1
53		5D53-270WC08	○	370	310	335	315	WC..080412	3.2
54		5D54-275WC08	○	375	320	340	320		3.3
55	40	5D55-280WC08	○	380	325	350	330		3.4
56		5D56-285WC08	○	385	335	355	340		3.6
57		5D57-295WC08	○	390	340	365	345		3.8
58		5D58-300WC08	○	395	350	370	350		3.9
59		5D59-305WC08	○	400	355	380	360		4.1
60		5D60-310WC08	○	405	365	385	365		4.2
61		5D61-315WC08	○	410	370	390	370		4.3
62		5D62-320WC08	○	415	375	395	375		4.4
63		5D63-325WC08	○	420	380	400	380		4.5
64		5D64-330WC08	○	425	385	405	385	WC..080412	4.6
65		5D65-335WC08	○	430	390	410	390		4.7
66		5D66-340WC08	○	435	395	415	395		4.8
67		5D67-345WC08	○	440	400	420	400		4.9
68		5D68-350WC08	○	445	405	425	405		5.0
69		5D69-355WC08	○	450	410	430	410		5.1
70		5D70-360WC08	○	455	415	435	415		5.2

◎ Spare Parts

type	diameter	Blade model	Screw			Wrench
WC	13-14.5	WC0	M1.8	X	5	T6
	14-14.5	2	M2.5	X	5.5	T8
	15-20.5	WC0	M2.5	X	6	T8
	21-24.5	3	M2.5	X	6	T8
	25-30.5	WC0	M3	X	7	T8
	31-41.5	3	M3.5	X	8.5	T15
	42-62	WC0	M4	X	10	T15
	63-80	4	M3.5	X	8.5	T8
		WC0				
		5				

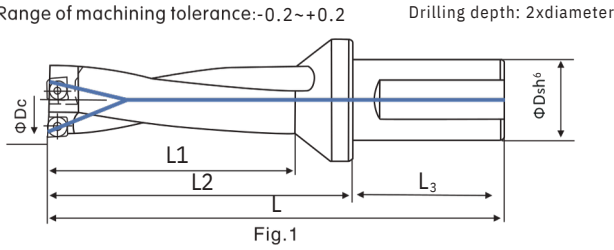
● Mark:Standard stock item
No mark:Made to order item.

WC0
8
WC0
6



TDR-2 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 2D:Φ13.0 ~ 60.0mm



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
8.5		KSD085-2D-S20-	●	83.5	18	33.5		SP..030202	0.2
9		SP03 KSD090-	●	84.5	19	34.5			0.2
9.5		2D-S20-SP03	●	85.5	20	35.5			0.2
10		KSD095-2D-S20-	●	85.5	22	35.5		SP..04T102	0.2
10.5	20	SP03 KSD100-	●	86.5	22	36.5			0.2
11		2D-S20-SP04	●	87.5	23	37.5			0.2
11.5		KSD105-2D-S20-	●	88	2	3			0.2
12		SP04 KSD110-	●	90	4	8		SP..050204	0.2
12.5		2D-S20-SP04	●	93	2	4			0.2
13		KSD115-2D-S20-	●	88	5	0			0.2
13.5		SP04 KSD120-	●	89	2	4			0.2
14		2D-S20-SP04	●	90	7	3		SP..060204	0.2
14.5	20	KSD125-2D-S20-	●	91	2	4			0.2
15	/	SP04 KSD130-	●	92	9	4			0.2
15.5	25	2D-S20-SP05	●	93	3	4			0.2
16		KSD135-2D-S20-	●	94	0	5		SP..07T308	0.2
16.5		SP05 KSD140-	●	95	3	4			0.2
17		2D-S20-SP05	●	96	3	4			0.2
17.5		KSD145-2D-S20-	●	109					0.2
18		SP05 KSD150-	●	110	2	7		SP..07T308	0.3
18.5		2D-S20-SP05	●	111	3	4			0.3
19		KSD155-2D-S20-	●	112	3	8			0.3
19.5		SP05 KSD160-	●	113	3	4			0.3
20		2D-S20-SP06	●	114	4	9		SP..07T308	0.3
20.5		KSD165-2D-S25-	●	115	3	5			0.3
21		SP06 KSD170-	●	116	3	5			0.3
21.5	25	2D-S25-SP06	●	117	6	1			0.3
22		KSD175-2D-S25-	●	118	6	1		SP..07T308	0.4
22.5		SP06 KSD180-	●	119	3	5			0.4
23		2D-S25-SP06	●	123	7	2			0.4
23.5		KSD185-2D-S25-	●	124	3	5			0.4
24		SP06 KSD190-	●	125	8	3		SP..07T308	0.4
24.5		2D-S25-SP06	●	126	3	5			0.4
25		KSD195-2D-S25-	●	127	9	4			0.4
25.5		SP06 KSD200-	●	134	4	5			0.6
26		2D-S25-SP06	●	135	0	5		SP..07T308	0.6
26.5		KSD205-2D-S25-	●	136	4	5			0.6
27		SP06 KSD210-	●	137	1	6			0.6
27.5		2D-S25-SP06	●	138	4	5			0.6
28		KSD215-2D-S25-	●	139	2	7		SP..07T308	0.6
28.5	32	SP06 KSD220-	●	140	4	5			0.6
29		2D-S25-SP07	●	143	3	8			0.7
29.5		KSD225-2D-S25-	●	144	4	5			0.7
30		SP07 KSD230-	●	148	4	9		SP..090408	0.7
30.5		2D-S25-SP07	●	149	4	6			0.7
31		KSD235-2D-S25-	●	150	5	0			0.7
		SP07 KSD240-	●	150	4	6			0.7

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
31.5		KSD315-2D-S32-	●	151	6	91		SP..090408	0.7
32		SP09 KSD320-	●	152	7	92			0.8
32.5		2D-S32-SP09	●	153	6	93			0.8
33		KSD325-2D-S32-	●	154	8	94		SP..090408	0.8
33.5		SP09 KSD330-	●	155	6	95			0.8
34		2D-S32-SP09	●	156	9	96			0.8
34.5		KSD335-2D-S32-	●	157	7	97		SP..110408	0.8
35		SP09 KSD340-	●	158	0	98			0.8
35.5	32	2D-S32-SP09/11	●	159	7	99	60		0.8
36		KSD345-2D-S32-	●	160	1	100		SP..110408	0.9
36.5		SP09/11	●	161	7	101			0.9
37		KSD350-2D-S32-	●	169	2	109			0.9
37.5		SP11 KSD355-	●	170	7	110		SP..110408	0.9
38		2D-S32-SP11	●	171	3	111			0.9
38.5		KSD360-2D-S32-	●	172	7	112			0.9
39		SP11 KSD365-	●	173	4	113		SP..110408	1
39.5		2D-S32-SP11	●	174	7	114			1.1
40	40	KSD370-2D-S32-	●	185	5	115	70		1.1

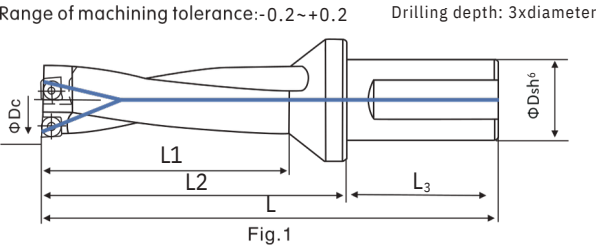
◎ Spare Parts

平頭螺釘 Screw	扳手 Wrench	適用刀杆 Applicable Drill
		8
M1.8*3.6	T6	4
M1.8*4	T6	5
M2*4	T6	5
M2*5	T7	5
M2.2*5	T7	5
M2.5*6	T8	5
M3.5*8.5	T1	5
M4*10	T2	5
	0	5

● Mark:Standard stock item,
No mark:Made to order item.

TDR-3 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 3D:Φ13.0 ~ 60.0mm



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
8.5		KSD085-3D-S20-SP	●	92.5	27	42.5		SP..030202	0.2
9		KSD090-3D-S20-SP	●	93.5	28	43.5			0.2
9.5		KSD095-3D-S20-SP	●	94.5	29	44.5			0.2
10		KSD100-3D-S20-SP	●	97	31	47.3		SP..04T102	0.2
10.5	20	KSD105-3D-S20-SP	●	97.5	31	47.5	34		0.2
11		KSD110-3D-S20-SP	●	98.5	31	48.5			0.2
11.5		KSD115-3D-S20-SP	●	100	36	57			0.2
12		KSD120-3D-S20-SP	●	102	39	0		SP..050204	0.2
12.5		KSD125-3D-S20-SP	●	105	42	5			0.2
13		KSD130-3D-S20-SP	●	101	44	2			0.2
13.5		KSD135-3D-S20-SP	●	103	45	5			0.2
14		KSD140-3D-S20-SP	●	104	47	5		SP..050204	0.2
14.5	20	KSD145-3D-S20-SP	●	106	48	5	7		0.2
15	/	KSD150-3D-S20-SP	●	107	50	5			0.2
15.5	25	KSD155-3D-S20-SP	●	109	51	5			0.2
16		KSD160-3D-S20-SP	●	110	53	9		SP..060204	0.2
16.5		KSD165-3D-S25-SP	●	112	54	0			0.2
17		KSD170-3D-S25-SP	●	113	56	6			0.2
17.5		KSD175-3D-S25-SP	●	127	57	6			0.2
18		KSD180-3D-S25-SP	●	128	59	2		SP..060204	0.3
18.5		KSD185-3D-S25-SP	●	130	60	3			0.3
19		KSD190-3D-S25-SP	●	131	62	3			0.3
19.5		KSD195-3D-S25-SP	●	133	63	6			0.3
20		KSD200-3D-S25-SP	●	134	65	5		SP..060204	0.3
20.5		KSD205-3D-S25-SP	●	136	66	6			0.3
21		KSD210-3D-S25-SP	●	137	69	6			0.3
21.5	25	KSD215-3D-S25-SP	●	139	71	6			0.3
22		KSD220-3D-S25-SP	●	140	72	8		SP..07T308	0.4
22.5		KSD225-3D-S25-SP	●	142	74	6			0.4
23		KSD230-3D-S25-SP	●	146	75	9			0.4
23.5		KSD235-3D-S25-SP	●	148	77	7			0.4
24		KSD240-3D-S25-SP	●	149	78	1		SP..07T308	0.4
24.5		KSD245-3D-S25-SP	●	151	80	10			0.4
25		KSD250-3D-S25-SP	●	152	81	10			0.4
25.5		KSD255-3D-S32-SP	●	160	83	10			0.6
26		KSD260-3D-S32-SP	●	161	84	10		SP..07T308	0.6
26.5		KSD265-3D-S32-SP	●	163	86	10			0.6
27		KSD270-3D-S32-SP	●	164	87	10			0.6
27.5		KSD275-3D-S32-SP	●	166	89	10			0.6
28		KSD280-3D-S32-SP	●	167	91	11		SP..07T308	0.6
28.5	32	KSD285-3D-S32-SP	●	169	93	11			0.6
29		KSD290-3D-S32-SP	●	172	94	11			0.7
29.5		KSD295-3D-S32-SP	●	174	96	12			0.7
30		KSD300-3D-S32-SP	●	178	97	12		SP..090408	0.7
30.5		KSD305-3D-S32-SP	●	180	8	1			0.7
31		KSD310-3D-S32-SP	●	181	8	3			0.7

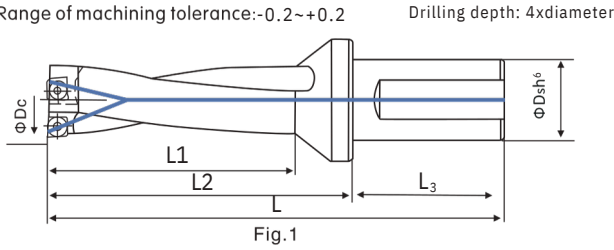
ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
31.5		KSD315-3D-S32-	●	183	99	123		SP..090408	0.7
32		SP09 KSD320-	●	184	100	124			0.8
32.5		3D-S32-SP09	●	186	102	126			0.8
33		KSD325-3D-S32-	●	187	103	127		SP..090408	0.8
33.5		SP09 KSD330-	●	189	105	129			0.8
34		3D-S32-SP09	●	190	106	130			0.8
34.5		KSD335-3D-S32-	●	192	108	132		SP..110408	0.8
35		SP09 KSD340-	●	193	109	133			0.8
35.5	32	3D-S32-SP09/11	●	195	111	135	60		0.8
36		KSD345-3D-S32-	●	196	112	136		SP..110408	0.9
36.5		SP09/11	●	198	114	138			0.9
37		KSD350-3D-S32-	●	206	116	146			0.9
37.5		SP11 KSD355-	●	208	118	148		SP..110408	0.9
38		3D-S32-SP11	●	209	119	149			0.9
38.5		KSD360-3D-S32-	●	211	121	151			0.9
39		SP11 KSD365-	●	212	122	152		SP..110408	1.0
39.5		3D-S32-SP11	●	214	124	154			1.1
40	40	KSD370-3D-S32-	●	225	125	155	70		1.1

◎ Spare Parts

Screw	Wrench	Applicable Drill
M1.8*3.6	T6	4
M1.8*4	T6	5
M2*4	T6	5
M2*5	T7	5
M2.2*5	T7	5
M2.5*6	T8	5

TDR-4 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 4D:Φ13.0 ~ 60.0mm



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
11.5	20	KSD115-4D-S20-SP04	111	47	61			SP..04T102	0.2
12		4D-S20-SP04	115	50	65				0.2
12.5			52	67	114	55	70		0.2
13		KSD125-4D-S20-SP04	116	57	72				0.2
13.5		KSD130-4D-S20-SP05	118	59	74				0.2
14			61	76	122	63	78		0.2
14.5	20	KSD135-4D-S20-SP05	124	65	80			SP..050204	0.2
15	/		126	67	82				0.2
15.5	25	4D-S20-SP05	69	84	130	71	86		0.2
16		KSD145-4D-S20-SP05	144	73	88				0.2
16.5			146	75	90				0.2
17		4D-S20-SP05	77	92	150	79	94		0.2
17.5		KSD155-4D-S20-SP05	152	81	96				0.2
18			154	83	98				0.3
18.5		4D-S20-SP06	85	100		158	87		0.3
19		KSD165-4D-S25-SP06	102		160	89	104		0.3
19.5			162	91	106				0.3
20		4D-S25-SP06	164	93	108				0.3
20.5		KSD175-4D-S25-SP06	95	113		171	97		0.3
21			115		173	99	117		0.3
21.5	25	4D-S25-SP06	175	101	119				0.3
22		KSD185-4D-S25-SP06	177	103	121				0.4
22.5			105	125		187	107		0.4
23		4D-S25-SP06	127		189	109	129		0.4
23.5		KSD195-4D-S25-SP06	191	111	131				0.4
24			193	113	133				0.4
24.5		4D-S25-SP06	115	135		197	117		0.4
25		KSD205-4D-S25-SP06	137		201	120	141		0.4
25.5			203	122	143				0.6
26		4D-S25-SP06	208	124	148				0.6
26.5		KSD215-4D-S25-SP06	126	150		212	128		0.6
27			152		214	130	154		0.6
27.5		4D-S25-SP07	216	132	156				0.6
28		KSD225-4D-S25-SP07	218	134	158				0.6
28.5			136	160		222	138		0.6
29		4D-S25-SP07	162						0.7
29.5		KSD235-4D-S25-SP07							0.7
30	32	SP07 KSD240-4D-S25-SP07							0.7
30.5									0.7
31		KSD245-4D-S25-SP07							0.7
31.5									0.7
32		4D-S25-SP07							0.8
32.5		KSD255-4D-S32-SP07							0.8
33									0.8
33.5		4D-S32-SP07							0.8

SP07 KSD270-4D-S32-SP07
KSD275-4D-S32-SP07
KSD280-4D-S32-SP07/09
KSD285-4D-S32-SP07/09
KSD290-4D-S32-

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
34		KSD340-4D-S32-SP09/11	224	140	164	142		SP..090408 SP..110408	0.8
34.5			226	166	144	168			0.8
35		KSD345-4D-S32-SP09/11	228	146	170	148			0.8
35.5			230	172	150	174			0.8
36		KSD350-4D-S32-SP11	232	60	153	183			0.9
36.5	32		236	155	185	157			0.9
37		4D-S32-SP11	243	187	159	189			0.9
37.5		KSD360-4D-S32-SP11	245	161	191	163			0.9
38			247	193	165	195			0.9
38.5		4D-S32-SP11	249	70					0.9
39		KSD370-4D-S32-SP11	251						1.0
39.5			253						1.1
40	40	4D-S32-SP11	265						1.1

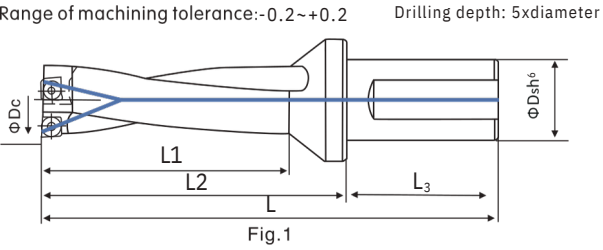
◎ Spare Parts

Screw	Wrench	Applicable Drill
M1.8*4	T6	KSD115-4D-S20-SP04-KSD125-4D-S20-SP04
M2*4	T6	SP04 KSD130-4D-S20-SP05-KSD145-4D-S20-SP05
M2*5	T7	S20-SP05 KSD150-4D-S20-SP05-KSD155-4D-S20-SP05
M2.2*5	T7	4D-S20-SP05 KSD160-4D-S20-SP06
M2.5*6	T8	SP06-KSD215-4D-S25-SP06 KSD220-4D-S25-SP06
M3.5*8.5	T1	S25-SP07-KSD285-4D-S32-SP07 KSD280-4D-S32-SP07
M4*10	5	4D-S32-SP07-KSD345-4D-S32-SP09
	T2	KSD340-4D-S32-SP11-KSD400-4D-S40-SP11
	0	

● Mark:Standard stock item,
No mark:Made to order item.

TDR-5 X D (Φ 8.5-50) Indexable drills with SP inserts

Holder diameter 5D:Φ13.0 ~ 60.0mm

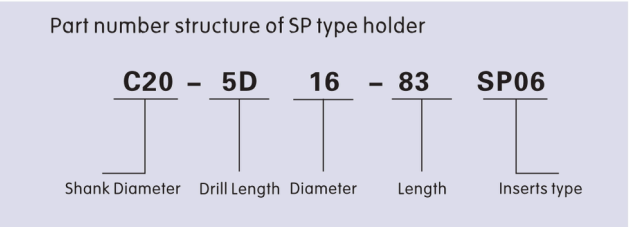


ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
15.5	20	KSD155-5D-S20-SP05	140	8	9			SP..04T102	0.3
16	/	SP05 KSD160-5D-S20-SP06	142	0	5				0.4
16.5	25		145	88	109				0.4
17		KSD165-5D-S25-SP06	147	88	108				0.4
17.5		SP06 KSD170-5D-S25-SP06	162	91	106				0.4
18			164	93	108				0.5
18.5		KSD175-5D-S25-SP06	167	96	111				0.5
19		SP06 KSD180-5D-S25-SP06	169	98	113				0.5
19.5			172	101	116				0.5
20		KSD185-5D-S25-SP06	174	103	118				0.5
20.5		SP06 KSD190-5D-S25-SP06	177	106	121				0.5
21			179	108	123				0.5
21.5	25	KSD195-5D-S25-SP06	182	111	126				0.5
22		SP06 KSD200-5D-S25-SP06	184	113	128				0.5
22.5			187	116	131				0.5
23		KSD205-5D-S25-SP06	192	118	136				0.6
23.5		SP06 KSD210-5D-S25-SP06	195	121	139				0.6
24			197	123	141				0.6
24.5		KSD215-5D-S25-SP06	200	126	144				0.8
25		SP06 KSD220-5D-S25-SP07	202	128	146				0.8
25.5			213	131	153				0.8
26		KSD225-5D-S25-SP07	216	133	156				0.8
26.5		SP07 KSD230-5D-S25-SP07	217	136	157				0.8
27			218	138	158				0.8
27.5		KSD235-5D-S25-SP07	221	141	161				0.8
28		SP07 KSD240-5D-S25-SP07	223	143	163				0.9
28.5			226	146	166				0.9
29		KSD245-5D-S25-SP07	230	149	170				0.9
29.5		SP07 KSD250-5D-S25-SP07	233	151	173				0.9
30			238	154	178				1.1
30.5		5D-S25-SP07	241	157	181				1.1
31		KSD255-5D-S32-SP07	243	159	183				1.1
31.5			245	162	185	60			1.1
32	32	KSD265-5D-S32-SP07	248	164	188				1.1
32.5		SP07 KSD270-5D-S32-SP07	251	167	191				1.1
33			253	169	193				1.2
33.5		KSD275-5D-S32-SP07	255	172	195				1.2
34		SP07 KSD280-5D-S32-SP07/09	258	174	198				1.2
34.5			261	177	201				1.2
35		KSD285-5D-S32-SP07/09	263	179	203				1.3
35.5			265	182	205				1.3
36		KSD290-5D-S32-SP09	268	184	208				1.3
36.5			271	187	211				1.3
37		5D-S32-SP09	280	190	220				
37.5		KSD300-5D-S32-SP09	283	193	223				

5D-S32-SP09
KSD310-5D-S32-SP09
KSD315-5D-S32-SP09
KSD320-5D-S32-SP09
KSD325-5D-S32-SP09
KSD330-5D-S32-

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
38		KSD380-5D-S32-SP11	285	195	225	198			1.4
38.5	32		288	228					1.4
39		KSD385-5D-S32-SP11	290	200	230	60		SP..110408	1.9
39.5			293	203	233				1.9
40	40	KSD390-5D-S32-SP11	305	205	235	70			1.9

S32-SP11
KSD395-5D-S32-SP11
KSD400-5D-S40-SP11



◎ Spare Parts

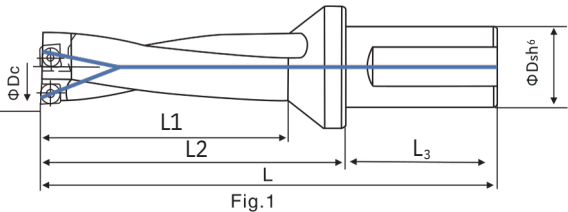
Screw	Wrench	Applicable Drill
M2*5	T7	KSD155-4D-S20-SP05-KSD155-4D-S20-SP05
M2.2*5	T7	SP05 KSD160-4D-S20-SP06-KSD215-4D-S25-SP06
M2.5*6	T8	S25-SP06 KSD220-4D-S25-SP07-KSD285-4D-S32-SP07
M3.5*8.5	T1	4D-S32-SP07 KSD280-4D-S32-SP07
M4*10	5	SP07-KSD345-4D-S32-SP09 KSD340-4D-S32-SP11-KSD400-4D-S40-SP11
	T2	
	0	

● Mark:Standard stock item,
No mark:Made to order item.

TOP-2 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 2D: φ 13.0 ~ 60.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 2xdiameter



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
13		KOD130-2D-	●	88	2	4		SOMT050204	0.2
13.5		S20/25-S005	●	89	9	4			0.2
14		KOD135-2D-	●	90	3	4			0.2
14.5	20	S20/25-S005	●	91	0	5			0.2
15	/	KOD140-2D-	●	92	3	4	44		0.2
15.5	25	S20/25-S005	●	93	1	6			0.2
16		KOD145-2D-	●	94	3	4			0.2
16.5		S20/25-S005	●	95	2	7			0.2
17		KOD150-2D-	●	96	3	4			0.2
17.5		S20/25-S005	●	109	3	8		SOMT060204	0.2
18		KOD155-2D-	●	110	3	4			0.3
18.5		S20/25-S005	●	111	4	9			0.3
19		KOD160-2D-	●	112	3	5			0.3
19.5		S20/25-S005	●	113	5	0		SOMT070306	0.3
20		KOD165-2D-	●	114	3	5			0.3
20.5		S20/25-S006	●	115	6	1			0.3
21		KOD170-2D-	●	116	3	5			0.3
21.5	25	S20/25-S006	●	117	7	2	56	SOMT08T306	0.3
22		KOD175-2D-	●	118	3	5			0.4
22.5		S25-S006	●	119	8	3			0.4
23		KOD180-2D-	●	123	3	5			0.4
23.5		S25-S006	●	124	9	4		SOMT09T308	0.4
24		KOD185-2D-	●	125	4	5			0.4
24.5		S25-S006	●	126	0	5			0.4
25		KOD190-2D-	●	127	4	5			0.4
25.5		S25-S006	●	134	1	6		SOMT11T308	0.6
26		KOD195-2D-	●	135	4	5			0.6
26.5		S25-S007	●	136	2	7			0.6
27		KOD200-2D-	●	137	4	5			0.6
27.5		S25-S007	●	138	3	8			0.6
28		KOD205-2D-	●	139	4	5			0.6
28.5		S25-S007	●	140	4	9			0.6
29		KOD210-2D-	●	143	4	6			0.7
29.5		S25-S007	●	144	5	0			0.7
30		KOD215-2D-	●	148	4	6			0.7
30.5		S25-S007	●	149	6	1	60	SOMT11T308	0.7
31	32	KOD220-2D-	●	150	4	6			0.7
31.5		S25-S007	●	151	7	2			0.7
32		KOD225-2D-	●	152	4	6			0.8
32.5		S25-S008	●	153	8	3			0.8
33		KOD230-2D-	●	154	4	6			0.8
33.5		S25-S008	●	155	9	7			0.8
34		KOD235-2D-	●	156	5	6			0.8
34.5		S25-S008	●	157	0	8			0.8
35		KOD240-2D-	●	158	5	6			0.8
35.5		S25-S008	●	159	1	9			0.8
		KOD245-2D-			5	7			

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
36		KOD360-2D-	●	160	7	100		SOMT11T308	0.9
36.5		S32-S011	○	161	6	101			0.9
37		KOD365-2D-	○	169	7	109		SOMT130408	0.9
37.5	32	S32-S011	○	170	7	110	60		0.9
38		KOD370-2D-	○	171	7	111			0.9
38.5		S32-S013	○	172	9	112			0.9
39		KOD375-2D-	○	173	8	113			1.0
39.5		S32-S013	○	174	0	114			1.1
40	40	KOD380-2D-	○	185	8	115	70		1.1

S32-S013	1
KOD385-2D-	8
S32-S013	2
KOD390-2D-	8
S32-S013	3
KOD395-2D-	8
S32-S013	4
KOD400-2D-	8
S40-S013	5

Part number structure of SO type holder

C20 - 2D 14 - 45 SOMT05

Shank Diameter Drill Length Diameter Length Inserts type

●附件Spare Parts

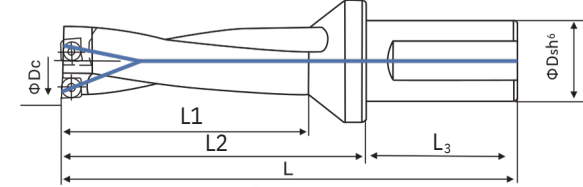
Screw	Wrench	Applicable Drill
		
M2*5	T6	KOD130-2D-S20-S005~KOD160-2D-
M2.2*	T7	S20-S005 KOD165-2D-S20-
5	T7	S006~KOD190-2D-S25-S006 KOD195-
M2.2*	T7	2D-S25-S007~KOD220-2D-S25-S007
M3.5*8.5	T7	KOD225-2D-S25-S008~KOD260-2D-
M3.5*8.5	T8	KOD225-2D-S32-S011~KOD365-2D-S32-S011
M4*10	T1	S008~KOD315-2D-S32-S009 KOD370-2D-S32-S013~KOD400-2D-S40-S013
	5	

● Mark:Standard stock item,
No mark:Made to order item.

TOP-3 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 3D: φ 13.0 ~ 50.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 3xdiameter



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		KOD130-3D-	●	101	42	44	45	SOMT050204	0.2
13.5		S20/25-S005	●	103	48	63	74		0.2
14		KOD135-3D-	●	104		5			0.2
14.5	20	S20/25-S005	●	106		9			0.2
15	/	KOD140-3D-	●	107		6			0.2
15.5	25	S20/25-S005	●	109	50	0		SOMT060204	0.2
16		KOD145-3D-	●	110	51	0			0.2
16.5		S20/25-S005	●	112	53	0			0.2
17		KOD150-3D-	●	113	54	6			0.2
17.5		S20/25-S005	●	127	56	6			0.3
18		KOD155-3D-	●	128	57	8		SOMT070306	0.3
18.5		S20/25-S005	●	130	59	6			0.3
19		KOD160-3D-	●	131	60	9			0.3
19.5		S20/25-S005	●	133	62	7			0.3
20		KOD165-3D-	●	134	63	1			0.3
20.5		S20/25-S006	●	136	65	7		SOMT08T306	0.3
21		KOD170-3D-	●	137	66	2			0.3
21.5	25	S20/25-S006	●	139	68	8	75		0.3
22		KOD175-3D-	●	140	69	4			0.4
22.5		S25-S006	●	142	70	7			0.4
23		KOD180-3D-	●	146	72	5		SOMT09T308	0.4
23.5		S25-S006	●	148	72	7			0.4
24		KOD185-3D-	●	149	73	7			0.4
24.5		S25-S006	●	151	75	7			0.4
25		KOD190-3D-	●	152	76	8			0.4
25.5		S25-S006	●	160	80	10	0	SOMT11T308	0.6
26		KOD195-3D-	●	161	81	10	1		0.6
26.5		S25-S007	●	163	83	10	8		0.6
27		KOD200-3D-	●	164	84	10	1		0.6
27.5		S25-S007	●	166	86	10	6		0.6
28		KOD205-3D-	●	167	87	10	7	SOMT11T308	0.6
28.5		S25-S007	●	169	89	10	9		0.6
29		KOD210-3D-	●	172	91	11	2		0.7
29.5		S25-S007	●	174	93	11	4		0.7
30		KOD215-3D-	●	178	94	11	8		0.7
30.5	32	S25-S007	●	180	96	12	6	SOMT11T308	0.7
31		KOD220-3D-	●	181	97	12	1		0.7
31.5		S25-S007	●	183	99	12	3		0.7
32		KOD225-3D-	●	184	100	12	4		0.8
32.5		S25-S008	●	186	102	12	6		0.8
33		KOD230-3D-	●	187	103	12	7	SOMT11T308	0.8
33.5		S25-S008	●	189	105	12	9		0.8
34		KOD235-3D-	●	190	106	13	0		0.8
34.5		S25-S008	●	192	108	13	2		0.8
35		KOD240-3D-	●	193	109	13	3		0.8
35.5		S25-S008	●	195	111	13	5		0.8
		KOD245-3D-							
		S25-S008							
		KOD250-3D-							
		S25-S008							
		KOD255-3D-							
		S32-S008							
		KOD260-3D-							
		S32-S008							

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
36		3D36-112SOMT11	●	196	112	136	114	SOMT11T308	0.9
36.5		3D36.5-114SOMT11	○	198	138	116	146		0.9
37		3D37-136SOMT13	○	206	118	148		SOMT130408	0.9
37.5	32	3D37.5-181SOMT13	○	208	119	149	60		0.9
38		3D38-139SOMT13	○	209	121	151			0.9
38.5		3D38.5-121SOMT13	○	211	122	152			0.9
39		3D39-122SOMT13	○	212	124	154			1.0
39.5		3D39.5-124SOMT13	○	214	125	155	70		1.1
40	40	3D40-125SOMT13	○	225					1.1

Part number structure of S₀ type holder

C20 - 3D 14 - 45 SOMT05

Shank Diameter Drill Length Diameter Length Inserts type

● Spare Parts

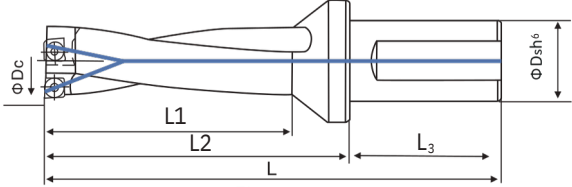
Screw	Wrench	Applicable Drill
M2*5	T6	KOD130-3D-S20-S005-KOD160-3D-
M2.2*5	T7	S20-S005 KOD165-3D-S20-
M2.2*5	T7	S006-KOD190-3D-S25-S006 KOD195-
M2.5*6	T7	3D-S25-S007-KOD220-3D-S25-S007
M3.5*8.5	T7	KOD225-3D-S25-S008-KOD260-3D-
M3.5*8.5	T8	S32-S008 KOD265-3D-S32-
M4*10	T1	S009-KOD315-3D-S32-S009 KOD320-
	5	3D-S32-S011-KOD365-3D-S32-S011
		KOD370-3D-S32-S013-KOD400-3D-
		S40-S013

● Mark:Standard stock item,
No mark:Made to order item.

TOP-4 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 4D: φ 14.0 ~ 50.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 4xdiameter



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		KOD130-4D-	●	114	55	57	59	SOMT050204	0.2
13.5		S20/25-S005	●	116	63	78	84		0.2
14		KOD135-4D-	●	118		7			0.2
14.5	20	S20/25-S005	●	120		2			0.2
15	/	KOD140-4D-	●	122		7			0.2
15.5	25	S20/25-S005	●	124	6	0		SOMT060204	0.2
16		KOD145-4D-	●	126	5	0			0.2
16.5		S20/25-S005	●	128	6	0			0.2
17		KOD150-4D-	●	130	7	2			0.2
17.5		S20/25-S005	●	144	6	8		SOMT070306	0.2
18		KOD155-4D-	●	146	9	4			0.3
18.5		S20/25-S005	●	148	7	8			0.3
19		KOD160-4D-	●	150	1	6			0.3
19.5		S20/25-S005	●	152	7	8			0.3
20		KOD165-4D-	●	154	3	8		SOMT08T306	0.3
20.5		S20/25-S006	●	156	75	10	0		0.3
21		KOD170-4D-	●	158	77	10	2		0.3
21.5	25	S20/25-S006	●	160	79	10	4		0.3
22		KOD175-4D-	●	162	81	10	6		0.3
22.5		S25-S006	●	164	83	10	8	SOMT09T308	0.4
23		KOD180-4D-	●	169	85	11	4		0.4
23.5		S25-S006	●	171	87	11	6		0.4
24		KOD185-4D-	●	173	89	11	8		0.4
24.5		S25-S006	●	175	91	11	9		0.4
25		KOD190-4D-	●	177	93	12	1	SOMT11T308	0.4
25.5		S25-S006	●	185	105	12	5		0.6
26		KOD195-4D-	●	187	107	12	7		0.6
26.5		S25-S007	●	189	109	12	9		0.6
27		KOD200-4D-	●	191	111	13	1		0.6
27.5		S25-S007	●	193	113	13	3	SOMT11T308	0.6
28		KOD205-4D-	●	195	115	13	5		0.6
28.5		S25-S007	●	197	117	13	7		0.6
29		KOD210-4D-	●	201	120	14	1		0.7
29.5		S25-S007	●	203	122	14	3		0.7
30		KOD215-4D-	●	208	124	14	8	SOMT11T308	0.7
30.5	32	S25-S007	●	210	126	15	0		0.7
31		KOD220-4D-	●	212	128	15	2		0.7
31.5		S25-S007	●	214	130	15	4		0.7
32		KOD225-4D-	●	216	132	15	6		0.8
32.5		S25-S008	●	218	134	15	8	SOMT11T308	0.8
33		KOD230-4D-	●	220	136	16	0		0.8
33.5		S25-S008	●	222	138	16	2		0.8
34		KOD235-4D-	●	224	140	16	4		0.8
34.5		S25-S008	●	226	142	16	6		0.8
35		KOD240-4D-	●	228	144	16	8	SOMT11T308	0.8
35.5		S25-S008	●	230	146	17	0		0.8
		KOD245-4D-							
		S25-S008							
		KOD250-4D-							
		S25-S008							
		KOD255-4D-							
		S32-S008							
		KOD260-4D-							
		S32-S008							

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
36		KOD360-4D-	●	232	148	172	150	SOMT11T308	0.9
36.5		S32-S011	○	234	174	153	183		0.9
37		KOD365-4D-	○	243	155	185		SOMT130408	0.9
37.5	32	S32-S011	○	245	157	187	60		0.9
38		KOD370-4D-	○	247	159	189			0.9
38.5		S32-S013	○	249	161	191			0.9
39		KOD375-4D-	○	251	163	193			1.0
39.5		S32-S013	○	253	165	195	70		1.1
40	40	KOD380-4D-	○	265					1.1

Part number structure of S₀ type holder

C20 - 4D 14 - 59 SOMT05

Shank Diameter Drill Length Diameter Length Inserts type

● Spare Parts

Screw	Wrench	Applicable Drill
M2*5	T6	KOD130-4D-S20-S005-KOD160-4D-
M2.2*	T7	S20-S005 KOD165-4D-S20-
5	T7	S006-KOD190-4D-S25-S006 KOD195-
M2.2*	T7	4D-S25-S007-KOD220-4D-S25-S007
M3.5*8.5	T7	KOD225-4D-S25-S008-KOD260-4D-
M3.5*8.5	T8	S32-S008 KOD265-4D-S32-
M4*10	T1	S009-KOD315-4D-S32-S009 KOD320-
	5	4D-S32-S011-KOD365-4D-S32-S011
		KOD370-4D-S32-S013-KOD400-4D-
		S40-S013

● Mark:Standard stock item,
No mark:Made to order item.

TOP-5 X D (Φ 13-50) Indexable drills with SOMT inserts

Holder diameter 5D: φ 16.0 ~ 50.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 5xdiameter

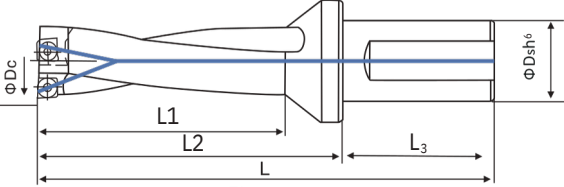


Fig.1



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
16	20	KOD160-5D-	●	142	83	98		SOMT050204	0.4
16.5	/	S20/25-S005	●	145	86	101	44		0.4
17	25	KOD165-5D-	●	147	88	103			0.4
17.5		S20/25-S006	●	162	91	106		SOMT060204	0.4
18		KOD170-5D-	●	164	93	108			0.5
18.5		S20/25-S006	●	167	96	111			0.5
19		KOD175-5D-	●	169	98	113			0.5
19.5		S25-S006	●	172	101	116			0.5
20		KOD180-5D-	●	174	103	118			0.5
20.5		S25-S006	●	177	106	121		SOMT070306	0.5
21		KOD185-5D-	●	179	108	123			0.5
21.5	25	S25-S006	●	182	111	126	56		0.5
22		KOD190-5D-	●	184	113	128			0.5
22.5		S25-S006	●	187	116	131			0.5
23		KOD195-5D-	●	192	118	136			0.6
23.5		S25-S007	●	195	121	139			0.6
24		KOD200-5D-	●	197	123	141			0.6
24.5		S25-S007	●	200	126	144		SOMT08T306	0.8
25		KOD205-5D-	●	202	128	146			0.8
25.5		S25-S007	●	213	131	153			0.8
26		KOD210-5D-	●	216	133	156			0.8
26.5		S25-S007	●	217	136	157			0.8
27		KOD215-5D-	●	218	138	158			0.8
27.5		S25-S007	●	221	141	161			0.8
28		KOD220-5D-	●	223	143	163			0.9
28.5		S25-S007	●	226	146	166			0.9
29		KOD225-5D-	●	230	149	170		SOMT09T308	0.9
29.5		S25-S008	●	233	151	173			0.9
30		KOD230-5D-	●	238	154	178			1.0
30.5		S25-S008	●	241	157	181			1.0
31		KOD235-5D-	●	243	159	183			1.0
31.5		S25-S008	●	245	162	185			1.0
32	32	KOD240-5D-	●	248	164	188	60		1.1
32.5		S25-S008	●	251	167	191			1.1
33		KOD245-5D-	●	253	169	193			1.1
33.5		S25-S008	●	255	172	195			1.1
34		KOD250-5D-	●	258	174	198		SOMT11T308	1.2
34.5		S25-S008	●	261	177	201			1.2
35		KOD255-5D-	●	263	179	203			1.2
35.5		S32-S008	●	265	182	205			1.2
36		KOD260-5D-	○	268	184	208			1.3
36.5		S32-S008	○	271	187	211			1.3
37		KOD265-5D-	○	280	190	220			1.3
37.5		S32-S009	○	283	193	223			1.3
38		KOD270-5D-	○	285	195	225		SOMT130408	1.4
38.5		S32-S009	○	288	198	228			1.4
		KOD275-5D-							

S32-S009

KOD280-5D-

S32-S009

KOD285-5D-

S32-S009

KOD290-5D-

S32-S009

WC -2 X D (Φ 13-100) Indexable drills with WC inserts

Holder diameter 2D:Φ10.0 ~ 80.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 2xdiameter

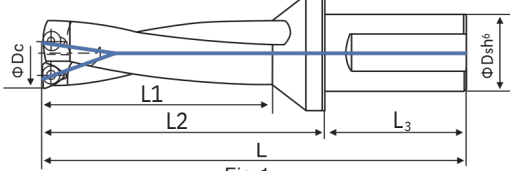


Fig.1



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		KCD130-2D-	●	88	2	44		WC..020104	0.2
13.5		S20/S25-WC02	●	89	9	45			0.2
14		KCD135-2D-	●	90	3	46		WC..02010	0.2
14.5	20	S20/S25-WC02	●	91	0	47		4	0.2
15	/	KCD140-2D-	●	92	3	48	44	WC..03020	0.2
15.5	25	S20/S25-	●	93	1	49		8	0.2
16		WC02/03	●	94	3	50			0.2
16.5		KCD145-2D-	●	95	2	51			0.2
17		S20/S25-	●	96	3	52			0.2
17.5		WC02/03	●	109	3	53		WC..030208	0.2
18		KCD150-2D-	●	110	3	54			0.3
18.5		S20/S25-WC03	●	111	4	55			0.3
19		KCD155-2D-	●	112	3	56			0.3
19.5		S20/S25-WC03	●	113	5	57			0.3
20		KCD160-2D-	●	114	3	58			0.3
20.5		S20/S25-WC03	●	115	6	59			0.3
21		KCD165-2D-	●	116	3	60			0.3
21.5	25	S20/S25-WC03	●	117	7	61	56		0.3
22		KCD170-2D-	●	118	3	62			0.4
22.5		S20/S25-WC03	●	119	8	63			0.4
23		KCD175-2D-S25-	●	123	3	67		WC..040208	0.4
23.5		WC03 KCD180-	●	124	9	68			0.4
24		2D-S25-WC03	●	125	4	69			0.4
24.5		KCD185-2D-S25-	●	126	0	70			0.4
25		WC03 KCD190-	●	127	4	71			0.4
25.5		2D-S25-WC03	●	134	1	74			0.6
26		KCD195-2D-S25-	●	135	4	75			0.6
26.5		WC03 KCD200-	●	136	2	76			0.6
27		2D-S25-WC03	●	137	4	77			0.6
27.5		KCD205-2D-S25-	●	138	3	78		WC..050308	0.6
28		WC03 KCD210-	●	139	4	79			0.6
28.5		2D-S25-WC04	●	140	4	80			0.6
29		KCD215-2D-S25-	●	143	4	83			0.7
29.5		WC04 KCD220-	●	144	5	84			0.7
30		2D-S25-WC04	●	148	4	88			0.7
30.5		KCD225-2D-S25-	●	149	6	89			0.7
31		WC04 KCD230-	●	150	4	90			0.7
31.5	32	2D-S25-WC04	●	151	7	91	60		0.7
32		KCD235-2D-S25-	●	152	4	92			0.7
32.5		WC04 KCD240-	●	153	8	93			0.8
33		2D-S25-WC04	●	154	4	94			0.8
33.5		KCD245-2D-S25-	●	155	9	95			0.8
34		WC04 KCD250-	●	156	5	96		WC..06T308	0.8
34.5		2D-S25-WC05	●	157	0	97			0.8
35		KCD255-2D-S32-	●	158	5	98			0.8
35.5		WC05 KCD260-	●	159	1	99			0.8
36		2D-S32-WC05	●	160	5	100			0.9
36.5		KCD265-2D-S32-	●	161	2	101			0.9
		WC05 KCD270-			5				

2D-S32-WC05

KCD275-2D-S32-

WC05 KCD280-

2D-S32-WC05

KCD285-2D-S32-

WC05 KCD290-

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
37		KCD370-3D-	●	206	116	146	118		1.1
37.5		S32-WC06	●	208	148	119	149		1.1
38	32	KCD375-3D-	●	209	121	151			1.1
38.5		S32-WC06	●	211	122	152	60	WC..06T308	1.1
39		KCD380-3D-	●	212	124	154			1.2
39.5		S32-WC06	●	214	125	155	70		1.3
40	40	KCD385-3D-	○	225					1.6

S32-WC06

KCD390-3D-

S32-WC06

KCD395-3D-

S32-WC06

KCD400-3D-

S40-WC06

◎ Spare Parts

Screw	Wrench	Applicable Drill
M1.8*5	T6	KCD130-3D-S20-WC02~KCD145-3D-
M2.5*5.5	T8	S25-WC02 KCD140-3D-S20-
M2.5*6	T8	WC03~KCD145-3D-S25-WC03 KCD150-
M2.5*6	T8	3D-S20-WC03~KCD205-3D-S25-WC03
M3*7	T8	KCD210-3D-S25-WC04~KCD245-3D-
M3.5*8.5	T1	S25-WC04 KCD250-3D-S25-
	5	WC05~KCD305-3D-S32-WC05 KCD310-
		3D-S32-WC06~KCD400-3D-S40-WC06

● Mark:Standard stock item,

No mark:Made to order item.

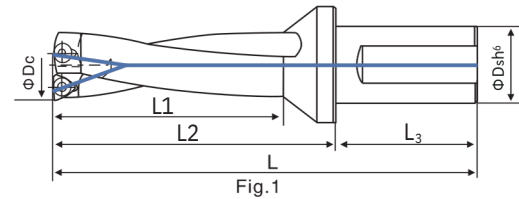
WC -3 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 3D:Φ10.0 ~ 80.0mm

WC -4 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 4D:Φ10.0 ~ 70.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 3xdiameter



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		KCD130-3D-	●	101	42	5		WC..020104	0.2
13.5		S20/S25-WC02	●	103	44	7			0.2
14		KCD135-3D-	●	104	45	5		WC..02010	0.2
14.5	20	S20/S25-WC02	●	106	47	9			0.2
15	/	KCD140-3D-	●	107	48	6	44	WC..03020	0.2
15.5	25	S20/S25-	●	109	50	0			0.2
16		WC02/03	●	110	50	6		WC..030208	0.2
16.5		KCD145-3D-	●	112	58	2			0.2
17		S20/S25-	●	113	59			WC..030208	0.2
17.5		WC02/03	●	127	59				0.3
18		KCD150-3D-	●	128	57			WC..030208	0.3
18.5		S20/S25-WC03	●	130	59				0.3
19		KCD155-3D-	●	131	65			WC..030208	0.3
19.5		S20/S25-WC03	●	133	67				0.3
20		KCD160-3D-	●	134	68			WC..030208	0.4
20.5		S20/S25-WC03	●	136	68				0.4
21		KCD165-3D-	●	137	68			WC..030208	0.4
21.5	25	S20/S25-WC03	●	139	68				0.4
22		KCD170-3D-	●	140	69			WC..030208	0.4
22.5		S20/S25-WC03	●	142	70				0.4
23		KCD175-3D-S25-	●	146	70			WC..030208	0.4
23.5		WC03 KCD180-	●	148	72				0.4
24		3D-S25-WC03	●	149	73			WC..030208	0.4
24.5		KCD185-3D-S25-	●	151	75				0.4
25		WC03 KCD190-	●	152	76			WC..030208	0.4
25.5		3D-S25-WC03	●	160	80	100			0.6
26		KCD195-3D-S25-	●	161	81	101		WC..030208	0.6
26.5		WC03 KCD200-	●	163	83	103			0.7
27		3D-S25-WC03	●	164	84	104		WC..030208	0.7
27.5		KCD205-3D-S25-	●	166	86	106			0.7
28		WC03 KCD210-	●	167	87	107		WC..030208	0.7
28.5		3D-S25-WC04	●	169	89	109			0.7
29		KCD215-3D-S25-	●	172	91	112		WC..030208	0.7
29.5		WC04 KCD220-	●	174	93	114			0.7
30		3D-S25-WC04	●	178	94	118		WC..030208	0.7
30.5		KCD225-3D-S25-	●	180	96	120			0.8
31		WC04 KCD230-	●	181	97	121	60	WC..030208	0.8
31.5	32	3D-S25-WC04	●	183	99	123			0.9
32		KCD235-3D-S25-	●	184	100	124		WC..030208	0.9
32.5		WC04 KCD240-	●	186	102	126			0.9
33		3D-S25-WC04	●	187	103	127		WC..030208	0.9
33.5		KCD245-3D-S25-	●	189	105	129			0.9
34		WC04 KCD250-	●	190	106	130		WC..030208	0.9
34.5		3D-S25-WC05	●	192	108	132			1.0
35		KCD255-3D-S32-	●	193	109	133		WC..030208	1.0
35.5		WC05 KCD260-	●	195	111	135			1.0
36		3D-S32-WC05	●	196	112	136		WC..030208	1.0
36.5		KCD265-3D-S32-	●	198	114	138			1.1
		WC05 KCD270-							

3D-S32-WC05

KCD275-3D-S32-

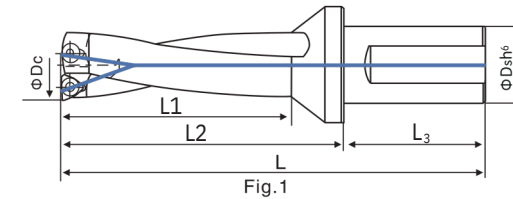
WC05 KCD280-

3D-S32-WC05

KCD285-3D-S32-

WC05 KCD290-

Range of machining tolerance:-0.2~+0.2 Drilling depth: 4xdiameter



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
13		KCD130-4D-	●	114	55	7		WC..020104	0.2
13.5		S20/S25-WC02	●	116	57	0			0.2
14		KCD135-4D-	●	118	59	7		WC..02010	0.2
14.5	20	S20/S25-WC02	●	120	61	2			0.2
15	/	KCD140-4D-	●	122	63	7	44	WC..03020	0.2
15.5	25	S20/S25-	●	124	63	4			0.2
16		WC02/03	●	126	62	7		WC..030208	0.3
16.5		KCD145-4D-	●	128	64	6			0.3
17		S20/S25-	●	130	70			WC..030208	0.3
17.5		WC02/03	●	144	78				0.3
18		KCD150-4D-	●	146	79			WC..030208	0.4
18.5		S20/S25-WC03	●	148	79				0.4
19		KCD155-4D-	●	150	79			WC..030208	0.4
19.5		S20/S25-WC03	●	152	80				0.4
20		KCD160-4D-	●	154	88			WC..030208	0.4
20.5		S20/S25-WC03	●	156	85	100			0.4
21		KCD165-4D-	●	158	87	102		WC..030208	0.4
21.5	25	S20/S25-WC03	●	160	89	104			0.4
22		KCD170-4D-	●	162	91	106		WC..030208	0.4
22.5		S20/S25-WC03	●	164	93	108			0.4
23		KCD175-4D-S25-	●	169	95	113		WC..030208	0.5
23.5		WC03 KCD180-	●	171	97	115			0.5
24		4D-S25-WC03	●	173	99	117		WC..030208	0.5
24.5		KCD185-4D-S25-	●	175	101	119			0.7
25		WC03 KCD190-	●	177	103	121		WC..030208	0.7
25.5		4D-S25-WC03	●	185	105	125			0.7
26		KCD195-4D-S25-	●	187	107	127		WC..030208	0.7
26.5		WC03 KCD200-	●	189	109	129			0.7
27		4D-S25-WC03	●	191	111	131		WC..030208	0.7
27.5		KCD205-4D-S25-	●	193	113	133			0.7
28		WC03 KCD210-	●	195	115	135		WC..030208	0.8
28.5		4D-S25-WC04	●	197	117	137			0.8
29		KCD215-4D-S25-	●	201	120	141		WC..030208	0.8
29.5		WC04 KCD220-	●	203	122	143			0.8
30		4D-S25-WC04	●	208	124	148		WC..030208	0.9
30.5		KCD225-4D-S25-	●	210	126	150			0.9
31		WC04 KCD230-	●	212	128	152	60	WC..030208	0.9
31.5	32	4D-S25-WC04	●	214	130	154			0.9
32		KCD235-4D-S25-	●	216	132	156		WC..030208	1.0
32.5		WC04 KCD240-	●	218	134	158			1.0
33		4D-S25-WC04	●	220	136	160		WC..030208	1.0
33.5		KCD245-4D-S25-	●	222	138	162			1.0
34		WC04 KCD250-	●	224	140	164		WC..030208	1.1
34.5		4D-S25-WC05	●	226	142	166			1.1
35		KCD255-4D-S32-	●	228	144	168		WC..030208	1.1
35.5		WC05 KCD260-	●	230	146	170			1.1
36		4D-S32-WC05	●	232	148	172		WC..030208	1.2
36.5		KCD265-4D-S32-	●	236	150	174			1.2
		WC05 KCD270-							

4D-S32-WC05

KCD275-4D-S32-

WC05 KCD280-

4D-S32-WC05

KCD285-4D-S32-

WC05 KCD290-

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
37		KCD370-3D-	●	206	116	146	118	WC..06T308	1.1
37.5		S32-WC06	●	208	148	119	149		1.1
38		KCD375-3D-	●	209	121	151		WC..06T308	1.1
38.5	32	S32-WC06	●	211	122	152	60		1.1
39		KCD380-3D-	●	212	124	154		WC..06T308	1.2
39.5		S32-WC06	●	214	125	155	70		1.3
40	40	KCD385-3D-	○	225				WC..06T308	1.6
		S32-WC06							
		KCD390-3D-						WC..06T308	
		S32-WC06							
		KCD395-3D-						WC..06T308	
		S32-WC06							
		KCD400-3D-						WC..06T308	
		S40-WC06							

◎ Spare Parts

Screw	Wrench	Applicable Drill
M1.8*5	T6	KCD130-3D-S20-WC02-KCD145-3D-
M2.5*5.5	T8	S25-WC02 KCD140-3D-S20-
M2.5*6	T8	WC03-KCD145-3D-S25-WC03 KCD150-
M2.5*6	T8	3D-S20-WC03-KCD205-3D-S25-WC03
M3*7	T8	KCD210-3D-S25-WC04-KCD245-3D-
M3.5*8.5	T1	S25-WC04 KCD250-3D-S25-
	5	WC05-KCD305-3D-S32-WC05 KCD310-
		3D-S32-WC06-KCD400-3D-S40-WC06

● Mark:Standard stock item,
No mark:Made to order item.

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
37	32	KCD370-3D-	●	243	153	183	155	WC..06T308	1.2
37.5		S32-WC06	●	245	185	157	187		1.2
38		KCD375-3D-	●	247	159	189			1.3
38.5		S32-WC06	●	249	161	191	60		1.3
39		KCD380-3D-	●	251	163	193			1.8
39.5		S32-WC06	●	253	165	195	70		1.8
40	40	KCD385-3D-	○	255					1.8
		S32-WC06							
		KCD390-3D-							
		S32-WC06							
		KCD395-3D-							
		S32-WC06							
		KCD400-3D-							
		S40-WC06							

WC -5 X D (Φ 14-100) Indexable drills with WC inserts

Holder diameter 5D:Φ15.0 ~ 100.0mm

Range of machining tolerance:-0.2~+0.2 Drilling depth: 5xdiameter

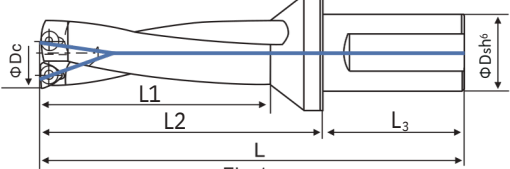


Fig.1



▲ H13/SKD61

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
16	20	KCD160-5D-	●	142	83	98			0.4
16.5	25	S20/S25-WC03	●	145	86	101	44		0.4
17		KCD165-5D-	●	147	88	103			0.4
17.5	25	S20/S25-WC03	●	162	91	106		WC..030208	0.4
18		KCD170-5D-	●	164	93	108			0.5
18.5		S20/S25-WC03	●	167	96	111			0.5
19		KCD175-5D-	●	169	98	113			0.5
19.5		S25-WC03	●	172	101	116			0.5
20		KCD180-5D-	●	174	103	118			0.5
20.5		S25-WC03	●	177	106	121		WC..040208	0.5
21		KCD185-5D-	●	179	108	123			0.5
21.5		S25-WC03	●	182	111	126	56		0.5
22		KCD190-5D-	●	184	113	128			0.5
22.5		S25-WC03	●	187	116	131			0.5
23		KCD195-5D-	●	192	118	136			0.6
23.5		S25-WC03	●	195	121	139		WC..050308	0.6
24		KCD200-5D-	●	197	123	141			0.6
24.5		S25-WC03	●	200	126	144			0.8
25		KCD205-5D-	●	202	128	146			0.8
25.5	32	S25-WC03	●	213	131	153		WC..06T308	0.8
26		KCD210-5D-	●	216	133	156			0.8
26.5		S25-WC04	●	217	136	157			0.8
27		KCD215-5D-	●	218	138	158			0.8
27.5		S25-WC04	●	221	141	161			0.8
28		KCD220-5D-	●	223	143	163			0.9
28.5		S25-WC04	●	226	146	166		WC..06T308	0.9
29		KCD225-5D-	●	230	149	170			0.9
29.5		S25-WC04	●	233	151	173			0.9
30		KCD230-5D-	●	238	154	178			1.0
30.5		S25-WC04	●	241	157	181			1.0
31		KCD235-5D-	●	243	159	183	60		1.0
31.5		S25-WC04	●	245	162	185		WC..06T308	1.0
32		KCD240-5D-	●	248	164	188			1.1
32.5		S25-WC04	●	251	167	191			1.1
33		KCD245-5D-	●	253	169	193			1.1
33.5		S25-WC04	●	255	172	195			1.1
34		KCD250-5D-	●	258	174	198			1.2
34.5		S25-WC05	●	261	177	201		WC..06T308	1.2
35		KCD255-5D-	●	263	179	203			1.2
35.5		S32-WC05	●	265	182	205			1.2
36		KCD260-5D-	●	268	184	208			1.3
36.5		S32-WC05	●	271	187	211			1.3

S32-WC05
KCD270-5D-
S32-WC05
KCD275-5D-
S32-WC05
KCD280-5D-
S32-WC05
KCD285-5D-
S32-WC05
KCD290-5D-
S32-WC05
KCD295-5D-

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	kg
37	32	KCD370-5D-	●	206	116	146	118		1.1
37.5		S32-WC06	●	208	148	119	149		1.1
38		KCD375-5D-	●	209	121	151		WC..06T308	1.1
38.5		S32-WC06	●	211	122	152	60		1.1
39		KCD380-5D-	●	212	124	154			1.2
39.5		S32-WC06	●	214	125	155	70		1.3
40	40	KCD385-5D-	○	225					1.6

S32-WC06
KCD390-5D-
S32-WC06
KCD395-5D-
S32-WC06
KCD400-5D-
S40-WC06

◎ Spare Parts

Screw	Wrench	Applicable Drill
M2.5*6	T8	KCD160-4D-S20-WC03~KCD205-4D-
M2.5*6	T8	S25-WC03 KCD210-4D-S25-
M3*7	T8	WC04~KCD245-4D-S25-WC04 KCD250-
M3.5*8.5	T1	4D-S25-WC05~KCD305-4D-S32-WC05
5		KCD310-4D-S32-WC06~KCD400-4D-S40-WC06

● Mark:Standard stock item,
No mark:Made to order item.





Chuck

Carbide Inserts
Rough Boring Head

Finish Boring Head

Chuck

Accessories

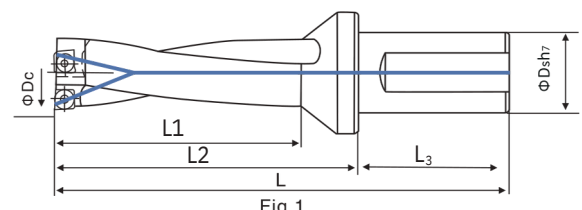
Chamfering Tools

Slot Milling Cutters

WDX (Φ 15-30) flat-bottom drills with WDX inserts

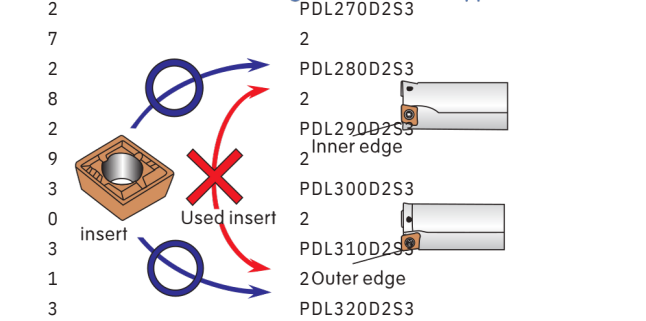
Holder diameter:Φ15.0 ~ 30.0mm

Range of machining tolerance: -0.05 ~ +0.15 Drilling depth: 2xdiameter



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	
1	20	PDL150D2S2	●	92	3	4	44	WDXT042004	0.2
5		0	●	94	3	8		WDXT052504	0.2
1		PDL160D2S2	●	96	3	5			0.2
6	25	0	●	112	5	0	56	WDXT063006	0.3
1		PDL170D2S2	●	114	3	5			0.3
7		0	●	116	7	2			0.3
1		PDL180D2S2	●	118	3	5		0.3	
8		5	●	120	9	6		0.4	
1		PDL190D2S2	●	122	4	5		WDXT073506	0.4
9		5	●	124	1	8			0.4
2		PDL200D2S2	●	126	4	6			0.4
0	32	5	●	135	3	0	60	WDXT073506	0.6
2		PDL210D2S2	●	137	4	6			0.6
1		5	●	139	5	2			0.7
2		PDL220D2S2	●	143	4	6		WDXT094008	0.7
2		5	●	148	7	4			0.7
2		PDL230D2S2	○	150	4	6			0.8
3		5	○	152	9	6			0.8
2		PDL240D2S2	○	154	5	6			0.8
4		5	○	156	1	8			0.8
2		PDL250D2S2	○	158	5	7			0.8

Notes About Mounting Inserts(PDL Type)

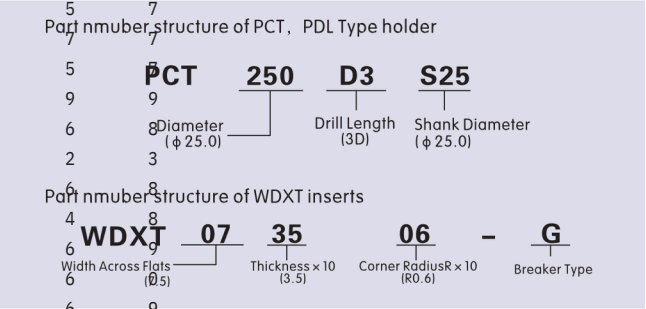


PDL type: The outer edge and center edge of the inserts can be used. A insert used as a peripheral edge cannot be used as a center edge. Similarly, a insert used as a center edge cannot be used as a peripheral edge.

PCT type: Limited to peripheral edge, using 2 tips

PDL340D2S3

Application	Angled Surface	Half Cylindrical	Pre-cast Hole	Intersecting Holes	Boring	External Turning	Laminated Plates	Back Boring
Feed Rate(f) mm/rev	0.05	0.05	0.08	0.05	0.1	0.1	Not applicable	Not applicable



KSD-2 X D (Φ 13-35) Indexable drills with XO/SP inserts

Holder diameter 2D:Φ13.0 ~ 35.0mm

Range of machining tolerance: -0.05 ~ +0.15 Drilling depth: 2xdiameter

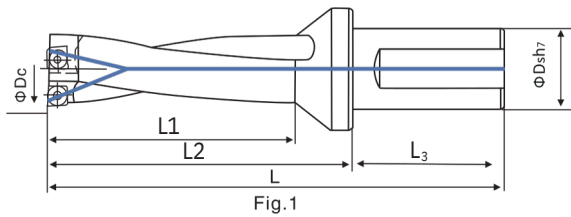


Fig.1

◎ Threaded Fittings /Connection: PT



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert
1	20	K2D12020-	●	90	2	4	50	SPMT0402
2		04	●	88	5	0		04
1		K2D13020-	●	90	2	4		XOMT0402
3		04	●	92	9	4		SPMT0502
1	25	K2D14020-	●	94	3	4	56	04
4		05	●	96	1	6		XOMT0502
1		K2D15020-	●	110	3	4		SPMT0602
5		05	●	112	3	8		05
1	32	K2D16020-	●	114	3	5	60	XOMT0602
6		05	●	116	5	0		05
1		K2D17025-	●	118	3	5		SPMT07T20
7		06	●	123	7	2		8

1	20	K2D18025-	●	123	7	2	60	XOMT07T2
8		06	●	123	7	2		08
1		K2D19025-	●	123	7	2		08
9		06	●	123	7	2		08
2	25	K2D20025-	●	123	7	2	60	08
0		07	●	123	7	2		08
2		K2D21025-	●	123	7	2		08
1		07	●	123	7	2		08
2	32	K2D22025-	●	123	7	2	60	08
2		07	●	123	7	2		08
2		K2D23025-	●	123	7	2		08
2		07	●	123	7	2		08

Range of machining tolerance: -0.05 ~ +0.15 Drilling depth: 3xdiameter

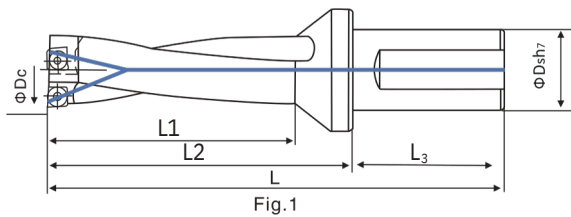


Fig.1

◎ Threaded Fittings /Connection: PT



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert
1	20	K3D12020-	●	102	3	5	50	SPMT0402
2		04	●	101	7	2		04
1		K3D13020-	●	104	4	5		XOMT0402
3		04	●	107	2	7		SPMT0502
1	25	K3D14020-	●	110	4	6	56	04
4		05	●	113	5	0		XOMT0502
1		K3D15020-	●	128	4	6		SPMT0602
5		05	●	131	8	3		05
1	32	K3D16020-	●	134	5	6	60	XOMT0602
6		05	●	137	1	6		05
1		K3D17025-	●	140	5	6		SPMT07T20
7		06	●	146	4	9		8

1	20	K3D18025-	●	146	4	9	60	XOMT07T2
8		06	●	146	4	9		08
1		K3D19025-	●	146	4	9		08
9		06	●	146	4	9		08
2	25	K3D20025-	●	146	4	9	60	08
0		07	●	146	4	9		08
2		K3D21025-	●	146	4	9		08
2		07	●	146	4	9		08
2	32	K3D22025-	●	146	4	9	60	08
2		07	●	146	4	9		08
2		K3D23025-	●	146	4	9		08
2		07	●	146	4	9		08

KSD-2 X D (Φ 13-35) Indexable drills with XO/SP inserts

Holder diameter 4D:Φ13.0 ~ 35.0mm

Range of machining tolerance: -0.05 ~ +0.15 Drilling depth: 4xdiameter

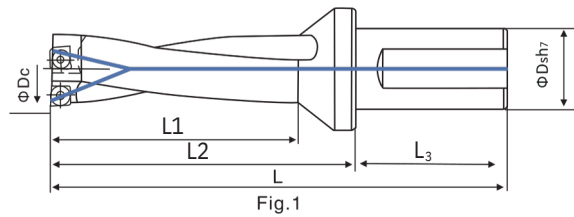


Fig.1

◎ Threaded Fittings /Connection: PT



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert
1	20	K4D12020-	●	115	5	6	50	SPMT0402
2		04	●	114	0	5		04
1		K4D13020-	●	118	5	7		XOMT0402
3		04	●	122	5	0		SPMT0502
1	25	K4D14020-	●	126	5	7	56	04
4		05	●	130	9	4		XOMT0502
1		K4D15020-	●	146	6	7		SPMT0602
5		05	●	150	3	8		05
1	32	K4D16020-	●	154	6	8	60	XOMT0602
6		05	●	158	7	10		05
1		K4D17025-	●	162	7	10		SPMT07T20
7		06	●	169	1	10		8

1	20	K4D18025-	●	169	1	10	60	XOMT07T2
8		06	●	169	1	10		08
1		K4D19025-	●	169	1	10		08
9		06	●	169	1	10		08
2	25	K4D20025-	●	169	1	10	60	08
0		07	●	169	1	10		08
2		K4D21025-	●	169	1	10		08
1		07	●	169	1	10		08
2	32	K4D22025-	●	169	1	10	60	08
2		07	●	169	1	10		08
2		K4D23025-	●	169	1	10		08
2		07	●	169	1	10		08

Range of machining tolerance: -0.05 ~ +0.15 Drilling depth: 5xdiameter

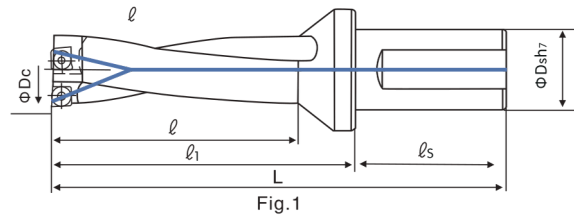


Fig.1

◎ Threaded Fittings /Connection: PT



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert
1	20	K5D12020-	●	124	63	8	50	SPMT0402
2		04	●	129	68	0		04
1		K5D13020-	●	133	73	8		XOMT0402
3		04	●	137	98	83		SPMT0502
1	25	K5D14020-	●	142	88	103	56	04
4		05	●	147	93	108		XOMT0502
1		K5D15020-	●	164	98	113		SPMT0602
5		05	●	169				05
1	32	K5D16020-	●	174	103	118	60	XOMT0602
6		05	●	179	108	123		05
1		K5D17025-	●	184	128	118		SPMT07T20
7		06	●	192				8

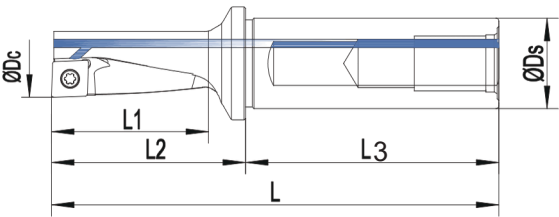
1	20	K5D18025-	●	192			60	XOMT07T2
8		06	●	192				08
1		K5D19025-	●	192				08
9		06	●	192				08
2	25	K5D20025-	●	192			60	08
0		07	●	192				08
2		K5D21025-	●	192				08
2		07	●	192				08
2	32	K5D22025-	●	192			60	08
2		07	●	192				08
2		K5D23025-	●	192				08
2		07	●	192				08

ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert
2	25	K5D24025-	●	197	123	141	60	SPMT0402
4		09	●	202	128	146		04
2		K5D25025-	●	216	133	156		XOMT0402
5		09	●	218	138	158		SPMT0502
2	32	K5D26032-	○	223	143	163	60	04
6		09	○	230	149	170		XOMT0502
2		K5D27032-	○	238	154	178		SPMT0602
7		09	○	243	159	183		05
2	32	K5D28032-	○	248	164	188	60	XOMT0602
8		09	○	253	169	193		05
2		K5D29032-	○	258	174	198		SPMT07T20
9		09	○	263	179	203		8

3	25	K5D30032-	○	263	179	203	60	XOMT07T2
0		11	○	263	179	203		08
3		K5D31032-	○	263	179	203		08
1		11	○	263	179	203		08
3	32	K5D32032-	○	263	179	203	60	08
2		11	○	263	179	203		08
3		K5D33032-	○	263	179	203		08
3		11	○	263	179	203		08



TCAP-2.25DN (8-32) Multifunction tools for drilling, boring, facing & external turning

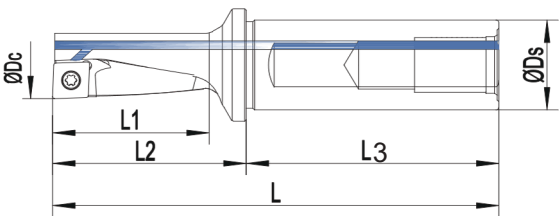


© Threaded Fittings /Connection: "G"



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	Screw	Wrench	kg
8	1	TCAP 08R 2.25D	●	64.5	18	22.5	4	XCMT04010	M2*4	T6	0.2
10	2	TCAP 10R 2.25D	●	69.5	22.5	27	2	4	M2*4	T6	0.2
12	1	TCAP 12R 2.25D	●	78	27	33	4	XCMT05020	M2.2*5	T7	0.2
14	2	TCAP 14R 2.25D	●	83.5	31.5	38.5	2	4	M2.5*6	T8	0.2
16	1	TCAP 16R 2.25D	●	94	36	44	4	XCMT06020	M3*7	T8	0.2
20	6	TCAP 20R 2.25D	●	111	45	55	5	4	M3.5*8.5	T15	0.3
25	1	TCAP 25R 2.25D	●	130	56.5	69	4	XCMT07030	M5*11	T20	0.6
32	6	TCAP 32R 2.25D	●	160	72	86	5	4	M5*11	T20	0.9
2							4	XCMT08030			
0							4	4			
2							5	XCMT10T30			
5							5	4			
3							6	XCMT13040			
2							9	4			
3							7	XCMT17050			
2							4	8			

TCAP-3DN (8-32) Multifunction tools for drilling, boring, facing & external turning



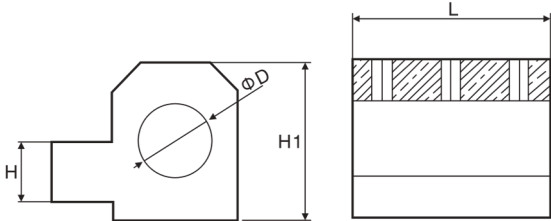
© Threaded Fittings /Connection: "G"



ΦDc	ΦDs	Specification/Item	Store	L	ℓ ₁	ℓ ₂	ℓ ₃	Applicable Insert	Screw	Wrench	kg
8	1	TCAP 08R 3D	●	64.5	2	42	22.5	XCMT04010	M2*4	T6	0.2
10	2	TCAP 10R 3D	●	79	5	37	42	4	M2*4	T6	0.2
12	1	TCAP 12R 3D	●	89	3	44	45	XCMT05020	M2.2*5	T7	0.2
14	2	TCAP 14R 3D	●	95	1	50	45	4	M2.5*6	T8	0.2
16	1	TCAP 16R 3D	●	109	3	59	50	XCMT06020	M3*7	T8	0.2
20	6	TCAP 20R 3D	●	128	7	72	56	4	M3.5*8.5	T15	0.3
25	1	TCAP 25R 3D	●	145	4	89	56	XCMT07030	M5*11	T20	0.6
32	6	TCAP 32R 3D	●	170	3	110	60	4	M5*11	T20	0.9
2					4			XCMT08030			
0					9			4			
2					6			XCMT10T30			
5					0			4			
3					7			XCMT13040			
2					5			4			
3					9			XCMT17050			
2					6			8			



Boring Block for U Drills



Specification/Item	H	H1	L	D
DK20-16	20	37	60	16
DK20-20		47	65	20
DK20-25		47	65	25
DK20-32		55	85	32
DK25-16	25	42	65	16
DK25-25		53	70	25
DK25-32		60	85	32
DK25-40		65	90	40
DK32-40	32	83	100	40
DK32-50		83	100	50

Set up example



Threaded Fittings / Connection

PT & G for your selection

Specification	Holder	Air Pipe External diameter (mm)	Threads External diameter	Screw pitch (mm)
PC10-M10*1.5	C20	10	M10	1.5
PC10-M12*1.75	C25	10	M12	1.75
PC12-M16*2	C32	12	M16	2
PC12-M20-2.5	C40	12	M20	2.5

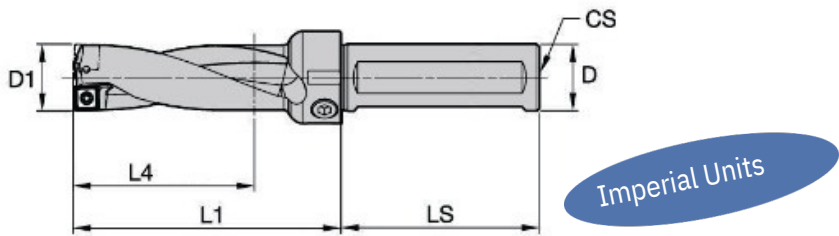


Connect

Specification	Holder	Threads External diameter	Weight
M10*1.5-PT1/8	C2	M1	17.4
M12*1.75-PT1/8	0	0	34
M16*2-PT1-4	C2	M1	48
M20*2.5-PT1/4	5	2	56
	C3	M1	
	2	6	
	C4	M2	
	0	0	

S
O
W
C
S
P
P
D
L
W
D
X
Chuck
Carbide Inserts
Rough Boring Head
Finish Boring Head
Chuck
Accessories
Chamfering Tools
Slot Milling Cutters

Inch dimension Coolant Thru Indexable Drills (For America Market)



Specification/Item	CS	Metric					INCH				
		D1	L1	L4	LS	D	D1	L1	L4	LS	D
C0.75-3D0500	1/4-18 NPT	12.7	66.1	38.1	50.8	19.05	0.5	2.602	1.5	2	0.75
C0.75-3D0531	1/8-27 NPT	13.4874	68.46	40.46			0.531	2.695	1.592		
C0.75-3D0563	1/8-27 NPT	14.3	69.9	42.9			0.563	2.752	1.689		
C0.75-3D0594	1/8-27 NPT	15.0876	72.26	45.26			0.594	2.844	1.781		
C0.75-3D0625	1/8-27 NPT	15.875	73.625	47.625			0.625	2.898	1.875		
C0.75-3D0656	1/8-27 NPT	16.6624	76.99	49.99			0.656	3.031	1.968		
C0.75-3D0688	1/8-27 NPT	17.4752	78.43	52.43			0.688	3.087	2.064		
C1-3D0703	1/4-18 NPT	17.8562	83.57	53.57	76.2	25.4	0.703	3.29	2.109	3	1
C1-3D0734	1/4-18 NPT	18.6436	84.93	55.93			0.734	3.343	2.202		
C1-3D0750	1/4-18 NPT	19.05	86.15	57.15			0.75	3.391	2.25		
C1-3D0781	1/4-18 NPT	19.8374	88.51	59.51			0.781	3.484	2.342		
C1-3D0813	1/4-18 NPT	20.65	89.95	61.95			0.813	3.541	2.439		
C1-3D0844	1/4-18 NPT	21.4376	92.31	64.31			0.844	3.634	2.531		
C1-3D0875	1/4-18 NPT	22.225	93.68	66.68			0.875	3.688	2.625		
C1-3D0906	1/4-18 NPT	23.0124	96.04	69.04			0.906	3.781	2.718		
C1-3D0938	1/4-18 NPT	23.8252	98.48	71.48			0.938	3.877	2.814		
C1-3D0969	1/4-18 NPT	24.6126	100.84	73.84			0.969	3.97	2.907		
C1-3D0984	1/4-18 NPT	24.9936	101.98	74.98			0.984	4.015	2.952		
C1-3D1000	1/4-18 NPT	25.4	103.2	27			1.0	4.063	3.0		
C1.25-3D1031	1/4-18 NPT	26.1874	108.56	78.56	82.55	31.75	1.031	4.274	3.092	3.25	1.25
C1.25-3D1063	1/4-18 NPT	27	110	81			1.063	4.33	3.189		
C1.25-3D1094	1/4-18 NPT	27.7876	112.36	83.36			1.094	4.423	3.281		
C1.25-3D1125	1/4-18 NPT	28.575	114.725	85.725			1.125	4.516	3.375		
C1.25-3D1156	1/4-18 NPT	29.3624	116.09	88.09			1.156	4.57	3.468		
C1.25-3D1188	1/4-18 NPT	30.1752	118.53	90.53			1.188	4.666	3.564		
C1.25-3D1219	1/4-18 NPT	30.9626	119.89	92.89			1.219	4.72	3.657		
C1.5-3D1250	1/4-18 NPT	31.75	124.42	95.25	95.25	38.1	1.25	4.898	3.75	3.75	1.5
C1.5-3D1281	1/4-18 NPT	32.5374	127.61	97.61			1.281	5.024	3.842		
C1.5-3D1313	1/4-18 NPT	33.35	129.05	100.05			1.313	5.08	3.939		
C1.5-3D1375	1/4-18 NPT	34.925	133.77	104.775			1.375	5.266	4.125		
C1.5-3D1406	1/4-18 NPT	35.7124	135.14	107.14			1.406	5.32	4.218		
C1.5-3D1438	1/4-18 NPT	36.5252	137.58	109.58			1.438	5.416	4.314		
C1.5-3D1469	1/4-18 NPT	37.3126	138.94	111.94			1.469	5.47	4.407		
C1.5-3D1500	1/4-18 NPT	37.3126	138.94	111.94			1.5	5.681	4.5		
C1.5-3D1531	1/4-18 NPT	38.1	144.3	114.3			1.531	5.774	4.592		
C1.5-3D1531	1/4-18 NPT	38.1	144.3	114.3			1.563	5.87	4.689		
C1.5-3D1563	1/4-18 NPT	38.8874	146.66	116.66			1.625	6.055	4.875		
C1.5-3D1625	1/4-18 NPT	39.7	149.1	119.1			1.656	6.149	4.968		
C1.5-3D1656	1/4-18 NPT	41.275	153.82	123.825			1.688	6.205	5.064		
C1.5-3D1656	1/4-18 NPT	41.275	153.82	123.825			1.75	6.352	5.25		
C1.5-3D1688	1/4-18 NPT	42.0624	156.19	126.19			1.813	6.62	5.439		
C1.5-3D1750	1/4-18 NPT	42.8752	157.63	128.63							
C2-3D1813	1/4-18 NPT	44.45	161.35	133.35	50.8		1875	6.766	5.625	2	
C2-3D1875	1/4-18 NPT	46.05	168.15	138.15	101.6	50.8	1.938	6.955	5.814	4	2
C2-3D1875	1/4-18 NPT	46.05	168.15	138.15			2.0	7.22	6.0		
C2-3D1938	1/4-18 NPT	47.625	171.88	142.875			2.125	7.595	6.374		
C2-3D2000	1/4-18 NPT	49.2252	176.68	147.68			2.25	8.206	6.75		
C2-3D2125	1/4-18 NPT	50.8	183.4	152.4			2.375	8.581	7.125		
C2-3D2250	1/4-18 NPT	53.975	192.92	161.92			2.5	8.956	7.5		
C2-3D2375	1/4-18 NPT	57.15	208.45	171.45							
C2-3D2500	1/4-18 NPT	60.325	217.98	180.98							
		63.5	227.5	190.5							

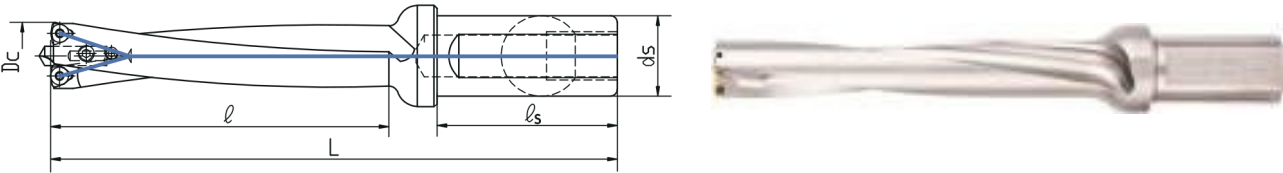




WC Turbo Drill 6D&8D

Holder diameter 6D:Φ25.0 ~ 40.0mm

Range of machining tolerance:-0.09~+0.1 Drilling depth: 6xdiameter



ΦDc	ΦDs	Specification/Item	L	l	ls	Pilot Drill	Applicable Insert	Screw	WRENCH
1	25	C25-6D18-	19	11	5	0620	WC..020104	M1.8*4	T6
8		115WC02 C25-	6	5	6				
1		6D19-121WC02	20	12	5		WC..030208	M2.5*6	T8
9		C25-6D20-	2	1	6				
2		127WC03 C25-	20	12	5				
0		6D21-133WC03	8	7	6				
2		C25-6D22-	21	13	5				
1		139WC03 C25-	4	3	6		WC..040208	M2.5*6	T8
2	32	6D23-145WC03	22	13	5				
2		C25-6D24-	0	9	6				
2		151WC03 C25-	22	14	5				
3		6D25-157WC03	6	5	6				
2		C32-6D26-	23	15	5				
4		163WC04 C32-	2	1	6				
2		6D27-169WC04	23	15	5	0825	WC..050308	M3*7	T15
5		C32-6D28-	8	7	6				
2		175WC04 C32-	25	16	6				
6		6D29-181WC04	1	3	0				
2		C32-6D30-	25	16	6				
7		187WC04 C32-	7	9	0				
2		6D31-193WC04	26	17	6				
8		C32-6D32-	3	5	0				
2		199WC05 C32-	26	18	6				
9		6D33-205WC05	9	1	0				
3	25	C32-6D34-	27	18	6	0620	WC..020104	M1.8*4	T6
3		211WC05 C32-	4	7	6				
3		6D35-217WC05	28	19	6		WC..030208	M2.5*6	T8
1		C25-8D18-	23	15	0				
8		151WC02 C25-	28	19	6				
3		8D19-159WC02	24	15	5				
1		8D37-229WC02	7	9	0				
9		C32-8D38-	0	9	0		WC..040208	M2.5*6	T8
3		195WC03 C32-	29	20	6				
3		6D39-175WC03	34	26	0				
0		8D31-171WC03	8	21	6				
4		C25-8D22-	25	17	5				
1		183WC03 C25-	30	21	6		WC..050308	M3*7	T15
2	32	8D23-191WC03	26	18	0				
3		C25-8D24-	4	3	6				
3		199WC03 C25-	27	19	5				
6		8D25-207WC03	1	3	0				
3		C32-8D26-	31	22	6				
2		215WC04 C32-	28	19	0				
4		8D27-223WC04	0	2	6		0825	WC..050308	T15
8		C32-8D28-	32	24	6				
5		231WC04 C32-	8	7	6				
9		8D29-239WC04	30	21	0				
6		C32-8D30-	3	5	0				
2		247WC04 C32-	31	22	6				
7		8D31-255WC04	1	3	0				
2		C32-8D32-	31	23	6				
8		263WC05 C32-	9	1	0				
2		8D33-271WC05	32	23	6				
9		C32-8D34-	7	9	0				
3		279WC05 C32-	33	24	6				
0		8D35-287WC05	5	7	0				
3		C22-8D26-	34	25	6				
1			3	5	0				

- S
- O
- W
- C
- S
- P
- P
- D
- L
- W
- D
- X
- Chuck
- Carbide Inserts
- Rough Boring Head
- Finish Boring Head
- Chuck
- Accessories
- Chamfering Tools
- Slot Milling Cutters

Hole tolerance

The 880 u drill enables optimal cutting force balance and drilling positive tolerance (larger size) holes. Because most holes are H tolerance.

◇ Drill depth : 2-3xDC	Hole Diameter	12.00-43.99	44.00-52.99	53.00-63
	Hole tolerance	0/+0.25	0/+0.28	0/+0.30
mm				
◇ Drill depth : 4-5xDC	Hole Diameter	12.00-43.99	44.00-52.99	53.00-63
	Hole tolerance	0/+0.28	0/+0.33	0/+0.35
mm				

Surface quality

Feed	Ra,μm	Rz,μm
Low	0.6-1	4-6
Middle	1-2	6-15
High	2-4	15-30

Mark:
The direct light tolerance of the 880 drill is a combination of the blade seat tolerance and the inserts tolerance in the drill body. Drill and blade manufacturing tolerances are included in hole tolerances.

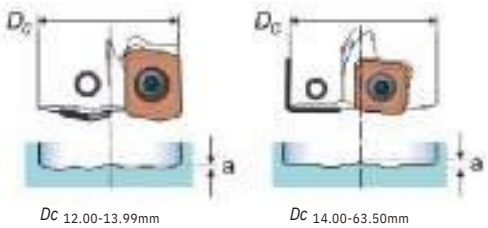


Bottom contour

The bottom profile is not completely flat and varies according to drill and insert size.

◇ The maximum size of each Inserts

Inserts Size	01	02	03	04	05	06	07	08	09
a(max) (mm)	0.4	0.6	0.7	0.9	1.1	1.1	1.4	1.6	2.0
Dc (mm)	12.00-13.99	14.00-16.49	15.50-19.99	20.00-23.99	24.00-29.99	30.00-35.99	36.00-43.99	44.00-52.99	53.00-63.50



Groove type and material

Suggestions for groove type applications

LM

P M N S

Long Chip Material Medium

Low to medium feed
Good chip control when processing long chip materials
Light chip

Large tip radius
LM-Preferred for long chip materials

GM

P M K N S H

Normal Materials Medium

Low to medium feed
Light chip

The short,shallow chute provides excellent chip control in the feed area
The small tip radius ensures low bit deflection

GR

P K

Normal Materials Rough Processing

Low to high feed
Strong,enhanced cutting edge

The big tip raduis
Good chip control in high feed area

		First choice	Other
P	Mild steel	LM	GM
	Alloy steel	GR	GM
M		LM	GM
K		GR	GM
N		LM	GM
S		LM	GM
H		GM	

◇ Material

MP2130	PVD coated inserts materials for processing ISO,P,K and H materials
	The high strength fine grain matrix and the use of coating (Altin) give the inserts extremely high wear resistance and excellent chip resistance.
MP3150	PVD coated inserts materials for processing ISO,P,M,K,S and N materials
	With a high chromium content, fine grain high strength matrix, and using PVD coating (Altin).High reliability combined with increased edge line safety ensures anti-chip and anti-chipping properties
MM4325	PVD coated inserts materials for processing ISO,P,K materials
	Advanced chemical vapor deposition TiCN+Al2O3+TiN coating, with high cobalt carbide substrate material. It has excellent balance of deformation resistance and edge toughness. Therefore, it has excellent wear resistance and crater wear resistance, and can be used for high-speed machining of steel and cast iron materials. It can adopt extremely high cutting speed, low feed and medium feed.

880 Indexable Drill Coding Rules

S
O
W
C
S
P
P
D
L
W
D
X
Chuck
Carbide Inserts
Rough Boring Head
Finish Boring Head
Chuck
Accessories
Chamfering Tools
Slot Milling Cutters

880 Indexable Drill Coding Rules

880	3	260	—	FC	20	—	SP	05
1	2	3		4	5		6	7

1	System	2	Length-diameter ratio	3	Dia.
	880		3=3×DC		260=26mm
4	Installation type	6	Inserts Type	7	Adaptor Inserets
	FC=Weldon		SP=Not ISO Inserts		05=SC05 SP05
5	Interface type				
	20=20mm				

880 Indexable Inserts Coding Rules

D	—	S	C	G	X	05	03	05	—	GR	Mo	2150
1		2	3	4	5	6	7	8		9		10

1	InsertsType	2	Inserts Shape	3	Installation position
	D=Drilling Inserts		S=Square		C=Center Inserts P=Peripheral Inserts
4	Accuracy levels	5	Screw hole type	6	InsertsSpecifications
	G=G tolerance		X=non-standard		05=05 inserts
7	Thickness S(mm)	8	Inserts point Angle Re	9	Inserts groove
	02=2 04=3. 02=2. 5 4 04=4 05=2. 05=4. 6 5 03=2. 06=5. 8 5 05=3		4=0.4 10=1. 05=0. 0 5 12=1. 06=0. 2 6 07=0. 7 08=0. 8		LM=LightMachining GM=Medium/generalpurposeprocessing GR=Heavydutymachining
				10	Inserts material

KUZEYTECH™

A drill that makes your manufacturing cost lower and product quality more stable.

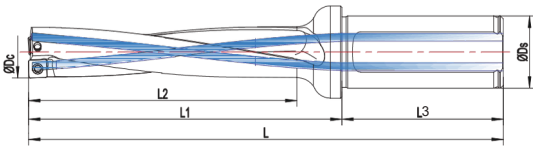


880 Inserts U Drill

Interface type：Trimstraight handle ISO 9766

Cooling method：internal cooling

Standard product range：2XDC



Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU2120_FC20_SP01	SC0	SP0	12	24	45	5	2	25	1	0.14	★
MGU2125_FC20_SP01	1	1	12.5	25	46	0	0	25	0	9	★
MGU2130_FC20_SP01	SC0	SP0	13	26	47	5	2	25	1	0.15	★
MGU2135_FC20_SP01	1	1	13.5	27	47	0	0	25	0	2	★
MGU2140_FC20_SP02	SC0	SP0	14	31	44	5	2	25	1	0.15	★
MGU2145_FC20_SP02	1	1	14.5	33	46	0	0	25	0	5	★
MGU2150_FC20_SP02	SC0	SP0	15	34	47	5	2	25	1	0.15	★
MGU2155_FC20_SP02	1	1	15.5	36.26	49	0	0	25	0	8	★
MGU2160_FC20_SP02	SC0	SP0	16	36.33	51	5	2	25	1	0.15	★
MGU2165_FC20_SP03	2	2	16.5	37.51	52	0	0	25	0	9	★
MGU2170_FC25_SP03	SC0	SP0	17	38.45	53	5	2	32	1	0.16	★
MGU2175_FC25_SP03	2	2	17.5	40.52	55	0	0	32	0	0.16	★
MGU2180_FC25_SP03	SC0	SP0	18	40.27	56	5	2	32	1	3	★
MGU2185_FC25_SP03	2	2	18.5	41.39	57	0	0	32	0	0.16	★
MGU2188_FC25_SP03	SC0	SP0	18.8	40.4	56	5	2	32	1	7	★
MGU2190_FC25_SP03	2	2	19	42.52	58	0	0	32	0	0.17	★
MGU2195_FC25_SP03	SC0	SP0	19.5	44.66	60	5	2	32	1	5	★
MGU2200_FC25_SP04	2	2	20	44.2	61	0	0	32	0	0.17	★
MGU2205_FC25_SP04	SC0	SP0	20.5	46.39	64	5	2	32	1	3	★
MGU2210_FC25_SP04	2	2	21	46.59	64	0	0	32	0	0.28	★
MGU2215_FC25_SP04	SC0	SP0	21.5	47.8	65	5	2	32	1	3	★
MGU2220_FC25_SP04	3	3	22	48	66	6	5	32	0	0.28	★
MGU2230_FC25_SP04	SC0	SP0	23	51.48	69	5	2	32	1	8	★
MGU2240_FC25_SP05	3	3	24	53.21	71	6	5	32	0	0.29	★
MGU2250_FC25_SP05	SC0	SP0	25	56.13	74	5	2	32	1	3	★
MGU2260_FC32_SP05	3	3	26	56.6	77	6	5	39.6	0	0.29	★
MGU2270_FC32_SP05	SC0	SP0	27	59.49	79	5	2	39.6	1	7	★
MGU2280_FC32_SP05	3	3	28	60.79	82	6	5	39.6	0	0.29	★
MGU2290_FC32_SP05	SC0	SP0	29	62.54	84	5	2	39.6	1	7	★
MGU2300_FC32_SP06	3	3	30	65.1	87	6	5	39.6	0	0.30	★
	SC0	SP0				5	2		1	2	
	3	3				6	5		0	0.30	
	SC0	SP0				5	2		1	7	
	3	3				6	5		0	0.31	
	SC0	SP0				5	2		1	6	
	4	4				6	5		0	0.32	
	SC0	SP0				5	2		1	7	
	4	4				6	5		0	0.32	
	SC0	SP0				5	2		1	3	

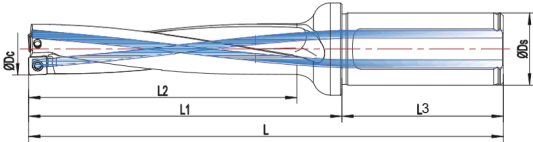
880 Inserts U Drill

Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU2310_FC40_SP06	SC0	SP0	3	66.75	90	7	4	48	1	1.02	★
MGU2320_FC40_SP06	6	6	1	68.18	92	0	0	48	0	1.04	★
MGU2330_FC40_SP06	SC0	SP0	3	70.74	95	7	4	48	1	1.07	★
MGU2340_FC40_SP06	6	6	2	73.43	98	0	0	48	0	1.1	★
MGU2350_FC40_SP06	SC0	SP0	3	76.24	10	7	4	48	1	1.14	★
MGU2360_FC40_SP07	6	6	3	77.35	1	0	0	48	0	1.16	★
MGU2370_FC40_SP07	SC0	SP0	3	79	10	7	4	48	1	1.19	★
MGU2380_FC40_SP07	6	6	4	80.37	4	0	0	48	0	3	★
MGU2390_FC40_SP07	SC0	SP0	3	82.53	10	7	4	48	1	1.24	★
MGU2400_FC40_SP07	6	6	5	85.83	5	0	0	48	0	4	★
MGU2410_FC40_SP07	SC0	SP0	3	90.75	10	7	4	48	1	1.29	★
MGU2420_FC40_SP07	7	7	6	93.74	8	0	0	48	0	1.32	★
MGU2430_FC40_SP07	SC0	SP0	3	91.12	11	7	4	49.5	1	1.38	★
MGU2440_FC40_SP08	7	7	7	93.23	0	0	0	62.5	0	1.42	★
MGU2450_FC40_SP08	SC0	SP0	3	95.33	11	7	4	62.5	1	1.47	★
MGU2460_FC40_SP08	7	7	8	98.82	3	0	0	62.5	0	1.65	★
MGU2470_FC40_SP08	SC0	SP0	3	101.3	11	7	4	62.5	1	1.71	★
MGU2480_FC40_SP08	7	7	9	4	7	0	0	62.5	0	1.75	★
MGU2490_FC40_SP08	SC0	SP0	4	104.8	11	7	4	62.5	1	1.8	★
MGU2500_FC40_SP08	7	7	0	8	9	0	0	62.5	0	1.86	★
MGU2510_FC40_SP08	SC0	SP0	4	107.4	12	7	4	62.5	1	1.92	★
MGU2520_FC40_SP08	7	7	1	4	2	0	0	62.5	0	1.99	★
MGU2530_FC40_SP09	SC0	SP0	4	105.4	12	7	4	62.5	1	2.11	☆
MGU2540_FC40_SP09	7	7	2	6	4	0	0	62.5	0	2.17	☆
MGU2550_FC40_SP09	SC0	SP0	4	108.7	12	7	4	62.5	1	2.15	☆
MGU2560_FC40_SP09	7	7	3	8	7	0	0	62.5	0	2.22	☆
MGU2570_FC40_SP09	SC0	SP0	4	110.3	13	7	4	62.5	1	2.31	☆
MGU2580_FC40_SP09	8	8	4	7	0	0	0	62.5	0	2.4	☆
MGU2590_FC40_SP09	SC0	SP0	4	113.4	13	7	4	62.5	1	2.48	☆
MGU2600_FC40_SP09	8	8	5	1	2	0	0	62.5	0	2.57	☆
MGU2610_FC40_SP09	SC0	SP0	4	114.7	13	7	4	62.5	1	2.61	☆
MGU2620_FC40_SP09	8	8	6	3	5	0	0	62.5	0	2.77	☆
MGU2630_FC40_SP09	SC0	SP0	4	116.6	13	7	4	62.5	1	2.89	☆
	8	8	7	7	7	0	0		0	2.95	
	SC0	SP0	4	118.5	14	7	4		1	3.06	

8	8	8	2	0	0	0	0
SC0	SP0	4	120.6	14	7	4	1
8	8	9	8	4	0	0	0
SC0	SP0	5	122.9	14	7	4	1
8	8	0	3	6	0	0	0
SC0	SP0	5	124.8	14	7	4	1
8	8	1	5	9	0	0	0
SC0	SP0	5	126.6	15	7	4	1
8	8	2	0	1	0	0	0
SC0	SP0	5	129.8	15	7	4	1
9	9	3	0	4	0	0	0
SC0	SP0	5	131.5	15	7	4	1
9	9	4	5	7	0	0	0
SC0	SP0	5	133.6	15	7	4	1
9	9	5	0	9	0	0	0
SC0	SP0	5		16	7	4	1

880 Inserts U Drill

Interface type：Trimstraight handle ISO 9766
Cooling method：internal cooling
Standard product range：3XDC



Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU3120_FC20_SP01	SC0	SP0	12	36	57	5	2	25	1	0.156	★
MGU3125_FC20_SP01	1	1	12.5	37.5	58.5	0	0	25	0	0.159	★
MGU3130_FC20_SP01	SC0	SP0	13	39	60	5	2	25	1	0.162	★
MGU3135_FC20_SP01	1	1	13.5	40.5	60.5	0	0	25	0	0.165	★
MGU3140_FC20_SP02	SC0	SP0	14	44.88	58	5	2	25	1	0.165	★
MGU3145_FC20_SP02	1	1	14.5	47	60	0	0	25	0	0.165	★
MGU3150_FC20_SP02	SC0	SP0	15	49.12	62	5	2	25	1	0.17	★
MGU3155_FC20_SP02	1	1	15.5	51.25	64	0	0	25	0	0.174	★
MGU3160_FC20_SP02	SC0	SP0	16	51.33	66	5	2	25	1	0.185	★
MGU3165_FC20_SP03	2	2	16.5	53.51	68	0	0	25	0	0.183	★
MGU3170_FC25_SP03	SC0	SP0	17	54.45	69	5	2	32	1	0.292	★
MGU3175_FC25_SP03	2	2	17.5	57.52	72	0	0	32	0	0.297	★
MGU3180_FC25_SP03	SC0	SP0	18	57.27	73	5	2	32	1	0.306	★
MGU3185_FC25_SP03	2	2	18.5	59.39	75	0	0	32	0	0.311	★
MGU3190_FC25_SP03	SC0	SP0	19	60.52	76	5	2	32	1	0.318	★
MGU3193_FC25_SP03	2	2	19.25	63.57	79	0	0	32	0	0.322	★
MGU3195_FC25_SP03	SC0	SP0	19.5	63.66	79	5	2	32	1	0.324	★
MGU3200_FC25_SP04	2	2	20	63.2	81	0	0	32	0	0.339	★
MGU3205_FC25_SP04	SC0	SP0	20.5	64.39	82	5	2	32	1	0.346	★
MGU3210_FC25_SP04	3	3	21	66.59	84	0	0	32	0	0.344	★
MGU3215_FC25_SP04	SC0	SP0	21.5	68.8	86	5	2	32	1	0.352	★
MGU3220_FC25_SP04	3	3	22	69.02	87	6	5	32	0	0.365	★
MGU3225_FC25_SP04	SC0	SP0	22.5	72.24	90	5	2	32	1	0.375	★
MGU3230_FC25_SP04	3	3	23	73.48	91	6	5	32	0	0.382	★
MGU3235_FC25_SP04	SC0	SP0	23.5	75.72	93	5	2	32	1	0.392	★
MGU3240_FC25_SP05	3	3	24	77.21	95	6	5	32	0	0.386	★
MGU3245_FC25_SP05	SC0	SP0	24.5	79.5	97	5	2	32	1	0.396	★
MGU3250_FC25_SP05	3	3	25	81.81	99	6	5	32	0	0.41	★
MGU3253_FC40_SP05	SC0	SP0	25	81.81	99	5	2	32	1	0.41	★
MGU3255_FC25_SP05	3	3	25.5	83.13	100	6	5	32	0	0.419	★
MGU3260_FC32_SP05	SC0	SP0	26	81.6	102	5	2	39.6	1	0.631	★
MGU3265_FC32_SP05	3	3	26.5	83.79	104	6	5	39.6	0	0.643	★
MGU3270_FC32_SP05	SC0	SP0	27	85.49	105	5	2	39.6	1	0.657	★
MGU3275_FC32_SP05	3	3	27.5	88.69	108	6	5	39.6	0	0.672	★
MGU3280_FC32_SP05	SC0	SP0	28	86.65	109	5	2	39.6	1	0.682	★
MGU3285_FC32_SP05	4	4	28.5	88.95	111	6	5	39.6	0	0.695	★
MGU3290_FC32_SP05	SC0	SP0	29	90.25	112	5	2	39.6	1	0.708	★
MGU3295_FC32_SP05	4	4	29.5	93.57	115	6	5	39.6	0	0.724	★
	SC0	SP0				5	2		1		
	4	4				6	5		0		

P39

SC0 SP0
4 4
SC0 SP0
4 4

5

2

1

0

1

0

880 Inserts U Drill

Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU3300_FC32_SP06	SC0	SP0	30	95.11	117	6	3	39.6	1	0.717	★
MGU3305_FC32_SP06	6	6	30.5	96.11	118	0	2	39.6	0	0.729	★
MGU3310_FC40_SP06	SC0	SP0	31	97.75	121	6	3	48	1	1.09	★
MGU3315_FC40_SP06	6	6	31.5	98.94	122	0	2	48	0	1.101	★
MGU3320_FC40_SP06	SC0	SP0	32	100.18	124	7	4	48	1	1.123	★
MGU3325_FC40_SP06	6	6	32.5	102.39	126	0	0	48	0	1.14	★
MGU3330_FC40_SP06	SC0	SP0	33	103.74	128	7	4	48	1	1.159	★
MGU3335_FC40_SP06	6	6	33.5	105.98	130	0	0	48	0	1.178	★
MGU3340_FC40_SP06	SC0	SP0	34	106.43	131	7	4	48	1	1.196	★
MGU3345_FC40_SP06	6	6	34.5	109.7	134	0	0	48	0	1.219	★
MGU3350_FC40_SP06	SC0	SP0	35	110.24	135	7	4	48	1	1.24	★
MGU3355_FC40_SP06	6	6	35.5	112.54	137	0	0	48	0	1.261	★
MGU3360_FC40_SP07	SC0	SP0	36	112.35	139	7	4	48	1	1.282	★
MGU3370_FC40_SP07	6	6	37	115.9	142	0	0	48	0	1.329	★
MGU3380_FC40_SP07	SC0	SP0	38	118.37	146	7	4	48	1	1.391	★
MGU3383_FC40_SP07	6	6	38.35	119.75	147.5	0	0	48	0	1.41	★
MGU3385_FC40_SP07	SC0	SP0	38.5	119.94	147.5	7	4	48	1	1.418	★
MGU3390_FC40_SP07	6	6	39	121.54	149	0	0	48	0	1.445	★
MGU3395_FC40_SP07	SC0	SP0	39.5	123.39	151	7	4	48	1	1.449	★
MGU3400_FC40_SP07	6	6	40	125.83	153	0	0	48	0	1.475	★
MGU3405_FC40_SP07	SC0	SP0	40.5	127.89	153	7	4	48	1	1.57	★
MGU3410_FC40_SP07	6	6	41	127.82	157	0	0	48	0	1.623	★
MGU3420_FC40_SP07	SC0	SP0	42	130.88	160	7	4	48	1	1.689	★
MGU3430_FC40_SP07	6	6	43	133.12	164	0	0	49.5	0	1.771	★
MGU3440_FC40_SP08	SC0	SP0	44	136.54	167	7	4	49.5	1	1.815	★
MGU3450_FC40_SP08	7	7	45	140.57	172	0	0	49.5	0	1.902	★
MGU3460_FC40_SP08	SC0	SP0	46	144	176	7	4	49.5	1	1.98	★
MGU3470_FC40_SP08	7	7	47	146.07	179	0	0	62.5	0	2.12	★
MGU3480_FC40_SP08	SC0	SP0	48	149.33	183	7	4	62.5	1	2.3	★
MGU3490_FC40_SP08	7	7	49	152.41	186	0	0	62.5	0	2.39	★
MGU3495_FC40_SP08	SC0	SP0	49.5	153.7	188	7	4	59	1	2.31	★
MGU3500_FC40_SP08	7	7	50	155.46	190	0	0	62.5	0	2.37	★
MGU3510_FC40_SP08	SC0	SP0	51	158.29	194	7	4	62.5	1	2.58	★
MGU3520_FC40_SP08	7	7	52	161.37	197	0	0	62.5	0	2.69	★
MGU3530_FC40_SP09	SC0	SP0	53	164.4	201	7	4	62.5	1	2.71	☆
MGU3540_FC40_SP09	7	7	54	167.73	204	0	0	62.5	0	2.81	☆
MGU3550_FC40_SP09	SC0	SP0	55	171.67	209	7	4	62.5	1	2.94	☆
MGU3560_FC40_SP09	7	7	56	174.52	213	0	0	62.5	0	3.07	☆
MGU3570_FC40_SP09	SC0	SP0	57	177.68	216	7	4	62.5	1	3.19	☆
MGU3580_FC40_SP09	7	7	58	180.93	220	0	0	62.5	0	3.32	☆
MGU3590_FC40_SP09	SC0	SP0	59	183.85	223	7	4	62.5	1	3.41	☆
MGU3600_FC40_SP09	7	7	60	186.89	227	0	0	62.5	0	3.55	☆
MGU3610_FC40_SP09	SC0	SP0	61	190.8	232	7	4	62.5	1	3.71	☆
MGU3620_FC40_SP09	7	7	62	193.78	235	0	0	62.5	0	3.94	☆
MGU3630_FC40_SP09	SC0	SP0	63	196.6	239	7	4	62.5	1	4.1	☆
	7	7				0	0		0		
	SC0	SP0				7	4		1		

7

7

0

0

7

4

0

P40

SC0 SP0

8

0

0

0

SC0 SP0

7

4

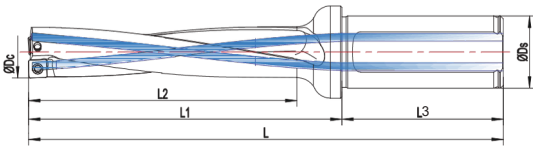
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880 Inserts U Drill

Interface type：Trimstraight handle ISO 9766

Cooling method：internal cooling

Standard product range ：4XDC



Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU4120_FC20_SP01	SC0	SP0	12	48	69	5	2	25	1	0.16	★
MGU4125_FC20_SP01	1	1	12.5	50	71	0	0	25	0	3	★
MGU4130_FC20_SP01	SC0	SP0	13	52	73	5	2	25	1	0.16	★
MGU4135_FC20_SP01	1	1	13.5	54	74	0	0	25	0	6	★
MGU4140_FC20_SP02	SC0	SP0	14	59.01	72	5	2	25	1	0.16	★
MGU4145_FC20_SP02	1	1	14.5	62.13	75	0	0	25	0	9	★
MGU4150_FC20_SP02	SC0	SP0	15	64.87	77	5	2	25	1	0.17	★
MGU4155_FC20_SP02	1	1	15.5	66.4	79	0	0	25	0	2	★
MGU4160_FC20_SP02	SC0	SP0	16	67.51	82	5	2	25	1	0.17	★
MGU4165_FC20_SP03	2	2	16.5	69.7	84	0	0	25	0	4	★
MGU4170_FC25_SP03	SC0	SP0	17	71.54	86	5	2	32	1	0.17	★
MGU4175_FC25_SP03	2	2	17.5	73.79	89	0	0	32	0	5	★
MGU4180_FC25_SP03	SC0	SP0	18	75.4	91	5	2	32	1	0.17	★
MGU4185_FC25_SP03	2	2	18.5	77.53	93	0	0	32	0	8	★
MGU4190_FC25_SP03	SC0	SP0	19	79.66	95	5	2	32	1	0.18	★
MGU4193_FC25_SP03	2	2	19.25	83.7	99	0	0	32	0	0.34	★
MGU4195_FC25_SP03	SC0	SP0	19.5	83.8	99	5	2	32	1	0.343	★
MGU4200_FC25_SP04	2	2	20	83.38	101	0	0	32	0	0.347	★
MGU4205_FC25_SP04	SC0	SP0	20.5	86.58	104	5	2	32	1	0.365	★
MGU4210_FC25_SP04	3	3	21	89.78	105	0	0	32	0	0.375	★
MGU4215_FC25_SP04	SC0	SP0	21.5	89.56	107.5	5	2	32	1	0.374	★
MGU4220_FC25_SP04	3	3	22	91.22	109	6	5	32	0	0.387	★
MGU4225_FC25_SP04	SC0	SP0	22.5	93.63	112	5	2	32	1	0.397	★
MGU4230_FC25_SP04	3	3	23	95.9	114	6	5	32	0	0.406	★
MGU4240_FC25_SP05	SC0	SP0	24	101.48	119	5	2	32	1	0.417	★
MGU4245_FC25_SP05	3	3	24.5	102.36	121.5	6	5	32	0	0.426	★
MGU4250_FC25_SP05	SC0	SP0	25	107.1	124	5	2	32	1	0.443	★
MGU4253_FC25_SP05	3	3	25.25	107.24	124	6	5	32	0	0.456	★
MGU4260_FC32_SP05	SC0	SP0	26	107.79	128	5	2	39.6	1	0.46	★
MGU4265_FC32_SP05	3	3	26.5	109.98	130	6	5	39.6	0	0.686	★
	SC0	SP0				5	2		1	0.702	
	3	3				6	5		0		
	SC0	SP0				5	2		1		
	3	3				6	5		0		
	SC0	SP0				5	2		1		
	4	4				6	5		0		
	SC0	SP0				5	2		1		
	4	4				6	5		0		
	SC0	SP0				5	2		1		

880 Inserts U Drill

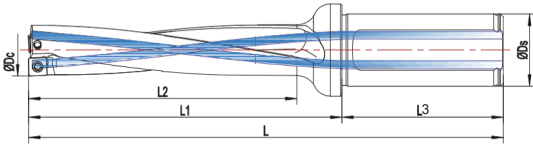
Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Peripheral Insert									
MGU4270_FC32_SP05	SC0	SP0	27	112.19	132	6	3	39.6	1	0.717	★
MGU4280_FC32_SP05	5	5	28	115.66	137	0	2	39.6	0	0.748	★
MGU4290_FC32_SP05	SC0	SP0	29	120.24	141	6	3	39.6	1	0.781	★
MGU4295_FC32_SP05	5	5	29.5	123.2	144	0	2	39.6	0	0.801	★
MGU4300_FC32_SP06	SC0	SP0	30	125.5	147	6	3	39.6	1	0.801	★
MGU4310_FC40_SP06	5	5	31	128	152	0	2	48	0	1.18	★
MGU4320_FC40_SP06	SC0	SP0	32	131.98	156	6	3	48	1	1.218	★
MGU4330_FC40_SP06	5	5	33	136.61	161	0	2	48	0	1.264	★
MGU4340_FC40_SP06	SC0	SP0	34	140.74	165	6	3	48	1	1.312	★
MGU4350_FC40_SP06	6	6	35	145.58	170	0	2	48	0	1.369	★
MGU4360_FC40_SP07	SC0	SP0	36	148.89	175	7	4	48	1	1.431	★
MGU4370_FC40_SP07	6	6	37	151.71	179	0	0	48	0	1.484	★
MGU4380_FC40_SP07	SC0	SP0	38	157.09	184	7	4	48	1	1.546	★
MGU4390_FC40_SP07	6	6	39	161.85	188	0	0	48	0	1.62	★
MGU4400_FC40_SP07	SC0	SP0	40	167.65	193	7	4	48	1	1.771	★
MGU4410_FC40_SP07	6	6	41	168.69	198	0	0	48	0	1.86	★
MGU4420_FC40_SP07	SC0	SP0	42	172.18	202	7	4	62.5	1	2.64	★
MGU4430_FC40_SP07	6	6	43	176	207	0	0	62.5	0	2.74	★
MGU4440_FC40_SP08	SC0	SP0	44	180.04	211	7	4	62.5	1	2.833	★
MGU4450_FC40_SP08	6	6	45	185.224	217	0	0	62.5	0	2.953	★
MGU4460_FC40_SP08	SC0	SP0	46	188.97	222	7	4	62.5	1	3.056	★
MGU4470_FC40_SP08	7	7	47	193.1	226	0	0	62.5	0	3.124	★
MGU4480_FC40_SP08	SC0	SP0	48	197	231	7	4	62.5	1	3.25	★
MGU4490_FC40_SP08	7	7	49	201.18	235	0	0	62.5	0	3.365	★
MGU4500_FC40_SP08	SC0	SP0	50	204.98	240	7	4	62.5	1	3.51	★
MGU4505_FC40_SP08	7	7	50.5	208.229	242	0	0	62.5	0	3.56	★
MGU4510_FC40_SP08	SC0	SP0	51	209.17	245	7	4	62.5	1	3.61	★
MGU4520_FC40_SP08	7	7	52	213.03	249	0	0	62.5	0	3.75	★
MGU4530_FC40_SP09	SC0	SP0	53	218	253	7	4	62.5	1	3.83	☆
MGU4540_FC40_SP09	7	7	54	221.98	258	0	0	62.5	0	3.92	☆
MGU4550_FC40_SP09	SC0	SP0	55	226	263	7	4	62.5	1	4.12	☆
MGU4560_FC40_SP09	7	7	56	230.68	269	0	0	62.5	0	4.32	☆
MGU4570_FC40_SP09	SC0	SP0	57	234	273	8	5	62.5	1	4.45	☆
MGU4580_FC40_SP09	7	7	58	238.95	277	0	0	62.5	0	4.63	☆
MGU4590_FC40_SP09	SC0	SP0	59	242	282	8	5	62.5	1	4.92	☆
MGU4600_FC40_SP09	7	7	60	246	287	0	0	62.5	0	5.23	☆
MGU4610_FC40_SP09	SC0	SP0	61	250	292	8	5	62.5	1	5.55	☆
MGU4620_FC40_SP09	8	8	62	254	296	0	0	62.5	0	5.87	☆
MGU4630_FC40_SP09	SC0	SP0	63	258	301	8	5	62.5	1	6.18	☆
	8	8				0	0		0		
	SC0	SP0				8	5		1		
	8	8				0	0		0		
	SC0	SP0				8	5		1		
	8	8				0	0		0		
	SC0	SP0				8	5		1		
	8	8				0	0		0		
	SC0	SP0				8	5		1		
	8	8				0	0		0		
	SC0	SP0				8	5		1		

880 Inserts U Drill

Interface type：Trimstraight handle ISO 9766

Cooling method：internal cooling

Standard product range ：5XDC



Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Periphera. Insert									
MGU5120_FC20_SP01	SC0	SP0	12	60.0	81	50	2	25	1	0.16	★
MGU5125_FC20_SP01	1	1	12.5	62.5	84		0	25	0	7	★
MGU5130_FC20_SP01	SC0	SP0	13	65.0	86	50	2	25	1	0.17	★
MGU5135_FC20_SP01	1	1	13.5	67.5	88		0	25	0	0	★
MGU5140_FC20_SP02	SC0	SP0	14	73.65	86	50	2	25	1	0.17	★
MGU5145_FC20_SP02	1	1	14.5	76.76	89		0	25	0	3	★
MGU5150_FC20_SP02	SC0	SP0	15	79.26	92	50	2	25	1	0.17	★
MGU5155_FC20_SP02	1	1	15.5	82.4	95		0	25	0	6	★
MGU5160_FC20_SP02	SC0	SP0	16	83.5	98	50	2	25	1	0.18	★
MGU5165_FC20_SP03	2	2	16.5	86.7	101		0	25	0	0	★
MGU5170_FC25_SP03	SC0	SP0	17	88.0	103	50	2	32	1	0.18	★
MGU5175_FC25_SP03	2	2	17.5	91.27	107		0	32	0	1	★
MGU5180_FC25_SP03	SC0	SP0	18	93.4	109	50	2	32	1	0.18	★
MGU5185_FC25_SP03	2	2	18.5	96.52	112		0	32	0	7	★
MGU5190_FC25_SP03	SC0	SP0	19	98.66	114	50	2	32	1	0.19	★
MGU5193_FC25_SP03	2	2	19.25	102.73	118		0	32	0	4	★
MGU5195_FC25_SP03	SC0	SP0	19.5	102.8	118	50	2	32	1	0.20	★
MGU5200_FC25_SP04	2	2	20	103.38	121		0	32	0	8	★
MGU5205_FC25_SP04	SC0	SP0	20.5	105.57	123	50	2	32	1	0.20	★
MGU5210_FC25_SP04	3	3	21	108.78	126		0	32	0	7	★
MGU5215_FC25_SP04	SC0	SP0	21.5	111.0	129	56	2	32	1	0.31	★
MGU5220_FC25_SP04	3	3	22	113.22	131		5	32	0	7	★
MGU5230_FC25_SP04	SC0	SP0	23	119.89	138	56	2	32	1	0.33	★
MGU5240_FC25_SP05	3	3	24	125.47	143		5	32	0	1	★
MGU5250_FC25_SP05	SC0	SP0	25	132.09	149	56	2	32	1	0.33	★
MGU5253_FC25_SP05	3	3	25.25	132.22	149		5	32	0	9	★
MGU5260_FC32_SP05	SC0	SP0	26	133.78	154	56	2	39.6	1	0.34	★
MGU5265_FC32_SP05	3	3	26.5	136.49	157		5	39.6	0	8	★
MGU5270_FC32_SP05	SC0	SP0	27	139.18	159	56	2	39.6	1	0.35	★
MGU5280_FC32_SP05	3	3	28	143.28	165		5	39.6	0	6	★
	SC0	SP0				56	2		1	0.36	
	3	3					5		0	3	

	SC0	SP0			56	2			1	0.36	
	3	3					5		0	7	
	SC0	SP0			56	2			1	0.38	
	4	4					5		0	8	
	SC0	SP0			56	2			1	0.39	
	4	4					5		0	8	
	SC0	SP0			56	2			1	0.40	

P43

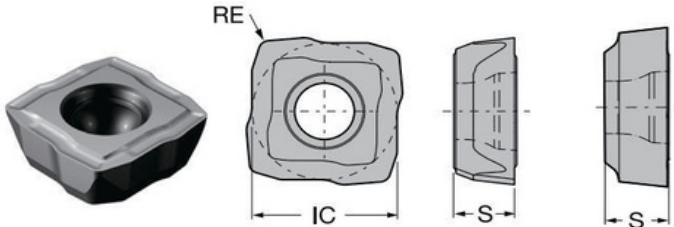
880 Inserts U Drill

Specification	Applicable Insert		DC	LC	L4	L5	D1	D4	BAR	KG	Stock
	Center Insert	Periphera. Insert									
MGU5290_FC32_SP05	SC0	SP0	2	149.53	171	60	3	39.6	1	0.85	★
MGU5300_FC32_SP06	5	5	9	155.49	177		2	39.6	0	5	★
MGU5310_FC40_SP06	SC0	SP0	3	159.0	183	60	3	48	1	0.88	★
MGU5320_FC40_SP06	6	6	0	164.42	188		2	48	0	0	★
MGU5330_FC40_SP06	SC0	SP0	3	169.2	194	70	4	48	1	1.26	★
MGU5340_FC40_SP06	6	6	1	175.73	200		0	48	0	0	★
MGU5350_FC40_SP06	SC0	SP0	3	181.57	206	70	4	48	1	1.31	★
MGU5360_FC40_SP07	6	6	2	186.0	212		0	48	0	0	★
MGU5370_FC40_SP07	SC0	SP0	3	189.0	216	70	4	48	1	1.36	★
MGU5380_FC40_SP07	6	6	3	195.08	222		0	48	0	4	★
MGU5390_FC40_SP07	SC0	SP0	3	201.84	228	70	4	48	1	1.42	★
MGU5400_FC40_SP07	6	6	4	208.64	234		0	48	0	6	★
MGU5410_FC40_SP07	SC0	SP0	3	215.51	240	70	4	48	1	1.49	★
MGU5420_FC40_SP07	6	6	5	219.85	245		0	62.5	0	5	★
MGU5430_FC40_SP07	SC0	SP0	3	236.16	251	70	4	62.5	1	1.57	★
MGU5440_FC40_SP08	7	7	6	223.99	255		0	62.5	0	4	☆
MGU5450_FC40_SP08	SC0	SP0	3	230.14	262	70	4	62.5	1	1.64	☆
MGU5460_FC40_SP08	7	7	7	234.97	268		0	62.5	0	3	☆
MGU5470_FC40_SP08	SC0	SP0	3	240.1	273	70	4	62.5	1	1.72	☆
MGU5480_FC40_SP08	7	7	8	245.0	279		0	62.5	0	0	☆
MGU5490_FC40_SP08	SC0	SP0	3	250.18	284	70	4	62.5	1	1.79	☆
MGU5500_FC40_SP08	7	7	9	254.92	290		0	62.5	0	3	☆
MGU5510_FC40_SP08	SC0	SP0	4	259.47	296	70	4	62.5	1	1.84	☆
MGU5520_FC40_SP08	7	7	0	265.0	301		0	62.5	0	1	☆
	SC0	SP0	4			70	4		1	2.11	

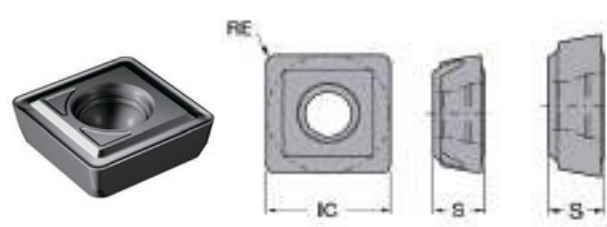
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SC0	SP0	4							1	2.85	
7	7	2							0	4	
SC0	SP0	4				80	5		1	2.96	
7	7	3							0	9	
SC0	SP0	4				80	5		1	3.15	
8	8	4							0	3	
SC0	SP0	4				80	5		1	3.28	
8	8	5							0	1	
SC0	SP0	4				80	5		1	3.41	
8	8	6							0	0	
SC0	SP0	4				80	5		1	3.52	
8	8	7							0	0	
SC0	SP0	4				80	5		1	3.67	
8	8	8							0	5	
SC0	SP0	4				80	5		1	3.82	
8	8	9							0	7	
SC0	SP0	5				80	5		1	3.99	
8	8	0							0	0	
SC0	SP0	5				80	5		1	4.13	
8	8	1							0	1	
SC0	SP0	5				80	5		1	4.30	
8	8	2							0	5	

P44

◎ Center Insert

						P					
						M					
						K					
						N					
						S					
						H					
	Specification	Size mm)			Efficiency Medium feed	Material					
		IC	S	RE		Mp2150	Mp3150	m4235			
01	D-SCGX010203-LM	4.57	2	0.3	High feed						
	D-SCGX010203-GR	4.57	2	0.3	Medium feed						
02	D-SCGX020204-LM	4.9	2.4	0.4	High feed						
	D-SCGX020204-GM	4.9	2.4	0.4							
	D-SCGX020204-GR	4.9	2.4	0.4							
	D-SCGX020204-LM	4.9	2.4	0.4							
03	D-SCGX030305-LM	5.7	2.6	0.5	Medium feed						
	D-SCGX030305-GM	5.7	2.6	0.5	High feed						
	D-SCGX030305-GR	5.7	2.6	0.5	Medium feed						
	D-SCGX030305-LM	5.7	2.6	0.5	High feed						
04	D-SCGX040305-LM	6.8	2.8	0.5	Medium feed						
	D-SCGX040305-GM	6.8	2.8	0.5	High feed						
	D-SCGX040305-GR	6.8	2.8	0.5	Medium feed						
	D-SCGX050305-LM	8.4	3	0.5	High feed						
05	D-SCGX050305-GM	8.4	3	0.5	Medium feed						
	D-SCGX050305-GR	8.4	3	0.5	High feed						
	D-SCGX060406-LM	10.2	3.5	0.6	Medium feed						
06	D-SCGX060406-GM	10.2	3.5	0.6	High feed						
	D-SCGX060406-GR	10.2	3.5	0.6	Medium feed						
	D-SCGX070406-LM	12.4	4	0.6	High feed						
07	D-SCGX070406-GM	12.4	4	0.6							
	D-SCGX070406-GR	12.4	4	0.6							
	D-SCGX080508-LM	14.9	4.5	0.8							
08	D-SCGX080508-GM	14.9	4.5	0.8							
	D-SCGX080508-GR	14.9	4.5	0.8							
	D-SCGX090608-LM	17.9	5.5	0.8							
09	D-SCGX090608-GM	17.9	5.5	0.8							
	D-SCGX090608-GR	17.9	5.5	0.8							

◎ Peripheral Insert

						P					
						M					
						K					
						N					
						S					
						H					
	Specification	Size mm)			Efficiency Medium feed	Material					
		IC	S	RE		Mp2150	Mp3150	Mm4235			
01	D-SPGX010204-LM	4.6	2	0.	High feed						
	D-SPGX010204-GR	4.6	2	4							
02	D-SPGX020204-GM	5.1	2.4	0.	Medium feed						
	D-SPGX020205-LM	5.1	2.4	4							
	D-SPGX020205-MS	5.1	2.4	0.							
	D-SPGX020205-GR	5.1	2.4	4							
03	D-SPGX030305-GM	6.0	2.6	0.	Medium feed						
	D-SPGX030306-LM	6.0	2.6	5							
	D-SPGX030305-MS	6.0	2.6	0.							
	D-SPGX030306-GR	6.0	2.6	5							
04	D-SPGX040307-LM	7.4	2.8	0.	Medium feed						
	D-SPGX040307-MS	7.4	2.8	0.							
	D-SPGX040307-GR	7.4	2.8	5							
	D-SPGX050305-GM	8.9	3.0	0.	High feed						
05	D-SPGX050308-LM	8.9	3.0	6	Medium feed						
	D-SPGX050308-MS	8.9	3.0	0.							
	D-SPGX050308-GR	8.9	3.0	6							
	D-SPGX060406-GM	10.7	3.5	0.	High feed						
06	D-SPGX060408-LM	10.7	3.5	6	Medium feed						
	D-SPGX060408-MS	10.7	3.5	0.							
	D-SPGX060410-GR	10.7	3.5	5							
	D-SPGX070406-GM	12.7	4.0	0.	High feed						
07	D-SPGX070410-LM	12.7	4.0	7	Medium feed						
	D-SPGX070410-MS	12.7	4.0	0.							
	D-SPGX070412-GR	12.7	4.0	7							
	D-SPGX080508-GM	15.5	4.5	0.	High feed						
08	D-SPGX080510-LM	15.5	4.5	7	Medium feed						
	D-SPGX080510-MS	15.5	4.5	0.							
	D-SPGX080512-GR	15.5	4.5	5							
	D-SPGX090608-GM	18.6	5.5	0.	High feed						
09	D-SPGX090610-LM	18.6	5.5	8	Medium feed						
	D-SPGX090610-MS	18.6	5.5	0.							
	D-SPGX090612-GR	18.6	5.5	8							
				0.							
				8	High feed						



Ac7315 grade TiAlN-based PVD multilayer coating for high cutting speeds, primarily in steel applications.



Ac7320 grade AlTiN-based PVD coating for the demands of drilling stainless steels.



ACPM45 grade multilayer TiAlN coated, very tough carbide substrate. Improved chipping resistance in demanding machining conditions.



特点及优势

HZ Drill-Point styles

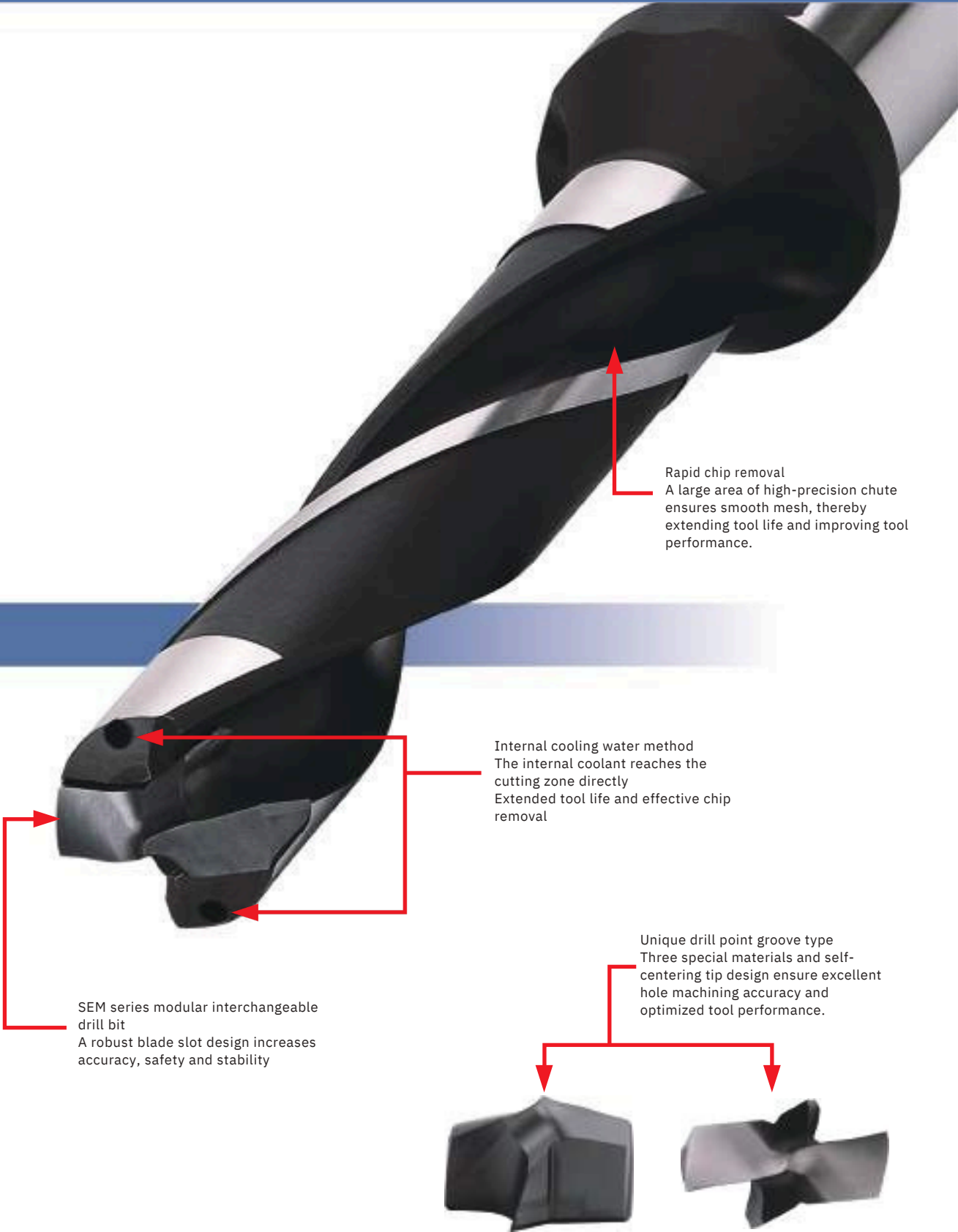
- Low thrust prevents workpiece fl exing.
- Excellent centring capabilities.
- Application specifi c selection of geometries for unmatched performance

Strong Pocket, Easy Insert Change

- Robust pocket design for increased insert and holder life.
- Four-wall pocket provides insert stability.
- Requires only a simple wrench for insert removal.

Regrindable Inserts

- All geometries except SPL can be reconditioned to improve tool economy.
- Quick and reliable regrinding services offered by Acckee and our partners.



Rapid chip removal
A large area of high-precision chute ensures smooth mesh, thereby extending tool life and improving tool performance.

Internal cooling water method
The internal coolant reaches the cutting zone directly
Extended tool life and effective chip removal

SEM series modular interchangeable drill bit
A robust blade slot design increases accuracy, safety and stability

Unique drill point groove type
Three special materials and self-centering tip design ensure excellent hole machining accuracy and optimized tool performance.





SEM DRILL

The SEM drill system offers extended length and drilling diameters

The SEM system enables very aggressive feed rates in many applications to enable very high productivity levels.

It offers a very robust pocket for its exchangeable inserts to increase tool life for both steel holder and carbide tip

This makes the KSEM system a very economic and reliable system for drilling in the intermediate diameter range.

Hole depths of 12 x D and drilling diameters from 12,5–40mm are covered by our standard tooling range.

Various grades are available for drilling applications in almost any materials.

SEM INSERTS

- SEM KC7315 HZ cutting edges enable high metal removal rates and superior tool life for steel applications.
- HZ geometry offers a wide and strong HP-style chiseled edge that prevents material quenching in the centre, enabling high feed rates. Sickel shaped, honed cutting edges provide excellent chip forming and tool life, even in long chipping materials.
- AC7315 is a fine-grain carbide with a TiAlN-based PVD multilayer coating. Its high wear resistance enables very high cutting speeds in stable conditions.
- AC7315 HP cutting edges are perfectly suited to drill alloyed and high-alloy steels.



SEM INSERTS HZ Ac7315



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1250	12.5	C
S	SEM1260	12.6	C
SEM INSERT	SEM1270	12.7	C
S	SEM1280	12.8	C
SEM INSERT	SEM1290	12.9	C
S	SEM1300	13.0	C
SEM INSERT	SEM1310	13.1	C
S	SEM1320	13.2	C
SEM INSERT	SEM1330	13.3	C
S	SEM1340	13.4	C
SEM INSERT	SEM1350	13.5	C
S	SEM1360	13.6	B
SEM INSERT	SEM1370	13.7	B
S	SEM1380	13.8	B
SEM INSERT	SEM1390	13.9	B
S	SEM1400	14.0	B
SEM INSERT	SEM1410	14.1	B
S	SEM1420	14.2	B
SEM INSERT	SEM1430	14.3	B
S	SEM1440	14.4	B
SEM INSERT	SEM1450	14.5	B
S	SEM1460	14.6	A
SEM INSERT	SEM1470	14.7	A
S	SEM1480	14.8	A
SEM INSERT	SEM1490	14.9	A
S	SEM1500	15.0	A
SEM INSERT	SEM1510	15.1	A
S	SEM1520	15.2	A
SEM INSERT	SEM1530	15.3	A
S	SEM1540	15.4	A
SEM INSERT	SEM1550	15.5	A
S	SEM1560	15.6	A
SEM INSERT	SEM1570	15.7	A
S	SEM1580	15.8	A
SEM INSERT	SEM1590	15.9	1
S	SEM1600	16.0	1
SEM INSERT	SEM1610	16.1	1
S	SEM1620	16.2	1

SEM INSERT
S
SEM INSERT
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SEM INSERT
S

ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1630	16.3	1
S	SEM1640	16.4	1
SEM INSERT	SEM1650	16.5	1
S	SEM1660	16.6	1
SEM INSERT	SEM1670	16.7	1
S	SEM1680	16.8	1
SEM INSERT	SEM1690	16.9	1
S	SEM1700	17.0	1
SEM INSERT	SEM1710	17.1	1
S	SEM1720	17.2	1
SEM INSERT	SEM1730	17.3	1
S	SEM1740	17.4	1
SEM INSERT	SEM1750	17.5	1
S	SEM1760	17.6	1
SEM INSERT	SEM1770	17.7	1
S	SEM1780	17.8	1
SEM INSERT	SEM1790	17.9	1
S	SEM1800	18.0	1
SEM INSERT	SEM1810	18.1	2
S	SEM1820	18.2	2
SEM INSERT	SEM1830	18.3	2
S	SEM1840	18.4	2
SEM INSERT	SEM1850	18.5	2
S	SEM1860	18.6	2
SEM INSERT	SEM1870	18.7	2
S	SEM1880	18.8	2
SEM INSERT	SEM1890	18.9	2
S	SEM1900	19.0	2
SEM INSERT	SEM1910	19.1	2
S	SEM1920	19.2	2
SEM INSERT	SEM1930	19.3	2
S	SEM1940	19.4	2
SEM INSERT	SEM1950	19.5	2
S	SEM1960	19.6	2
SEM INSERT	SEM1970	19.7	2
S	SEM1980	19.8	2
SEM INSERT	SEM1990	19.9	2
S	SEM2000	20.0	3

SEM INSERT
S
SEM INSERT
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SEM INSERT
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SEM INSERTS

SEM INSERTS HZ Ac7315



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM2010	20.1	3
S	SEM2020	20.2	3
SEM INSERT	SEM2030	20.3	3
S	SEM2040	20.4	3
SEM INSERT	SEM2050	20.5	3
S	SEM2060	20.6	3
SEM INSERT	SEM2070	20.7	3
S	SEM2080	20.8	3
SEM INSERT	SEM2090	20.9	3
S	SEM2100	21.0	3
SEM INSERT	SEM2110	21.1	3
S	SEM2120	21.2	3
SEM INSERT	SEM2130	21.3	3
S	SEM2140	21.4	3
SEM INSERT	SEM2150	21.5	3
S	SEM2160	21.6	3
SEM INSERT	SEM2170	21.7	3
S	SEM2180	21.8	3
SEM INSERT	SEM2190	21.9	3
S	SEM2200	22.0	3
SEM INSERT	SEM2210	22.1	4
S	SEM2220	22.2	4
SEM INSERT	SEM2230	22.3	4
S	SEM2240	22.4	4
SEM INSERT	SEM2250	22.5	4
S	SEM2260	22.6	4
SEM INSERT	SEM2270	22.7	4
S	SEM2280	22.8	4
SEM INSERT	SEM2290	22.9	4
S	SEM2300	23.0	4
SEM INSERT	SEM2310	23.1	4
S	SEM2320	23.2	4
SEM INSERT	SEM2330	23.3	4
S	SEM2340	23.4	4
SEM INSERT	SEM2350	23.5	4
S	SEM2360	23.6	4
SEM INSERT	SEM2370	23.7	4
S	SEM2380	23.8	4
SEM INSERT	SEM2390	23.9	4
S	SEM2400	24.0	4
SEM INSERT	SEM2410	24.1	5
S	SEM2420	24.2	5
SEM INSERT	SEM2430	24.3	5
S	SEM2440	24.4	5
SEM INSERT	SEM2450	24.5	5
S	SEM2460	24.6	5
SEM INSERT	SEM2470	24.7	5
S	SEM2480	24.8	5

SEM INSERT
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SEM INSERTS

SEM INSERTS HZ Ac7315



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM2970	29.7	7
S	SEM2980	29.8	7
SEM INSERT	SEM2990	29.9	7
S	SEM3000	30.0	7
SEM INSERT	SEM3010	30.1	8
S	SEM3020	30.2	8
SEM INSERT	SEM3030	30.3	8
S	SEM3040	30.4	8
SEM INSERT	SEM3050	30.5	8
S	SEM3060	30.6	8
SEM INSERT	SEM3070	30.7	8
S	SEM3080	30.8	8

SEM INSERT

S

SEM INSERT

S

SEM INSERT

S Tolerance HZ • Metric

SEM INSERT

S	D1 metric	tolerance h8
SEM INSERT	15-1	+0.000/-0.027
S	>18-30	+0.000/-0.033
SEM INSERT	>30-32	+0.000/-0.039

S

Modular Drill Carbide Insert Blades • SEM • HZ Geometry •
Grade AC7315 • Through Coolant • Metric

D1 metric		Cutting Speed – vc Range – m/min			Metric					
					Recommended Feed Rate (f) by Diameter					
		min	Starting Value	Max		12.5	16.0	20.0	25.4	32.0
P1	Mild steel	100	100	120	mm/r	0.15-0.31	0.17-0.36	0.19-0.41	0.25-0.53	0.29-0.60
P2	Medium carbon steel/high carbon steel	80	95	110	mm/r	0.15-0.31	0.17-0.36	0.19-0.41	0.25-0.53	0.29-0.60
P3	Alloy steel/tool steel	65	70	80	mm/r	0.15-0.31	0.17-0.36	0.19-0.41	0.25-0.53	0.29-0.60
M1	austenitic stainless steel	30	60	90	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28
M2	Austenitic/Cast Stainless steel	30	50	90	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28
M3	Duplex stainless steel	20	40	60	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28
K1	Grey cast iron	90	135	175	mm/r	0.17-0.35	0.21-0.42	0.25-0.48	0.31-0.59	0.37-0.70
K2	Nodular cast iron/vermicular cast iron	90	110	125	mm/r	0.17-0.33	0.21-0.41	0.25-0.48	0.31-0.59	0.37-0.70
K3	High strength ductile iron	40	95	125	mm/r	0.18-0.36	0.20-0.41	0.21-0.44	0.23-0.48	0.25-0.53

ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM3090	30.9	8
S	SEM3100	31.0	8
SEM INSERT	SEM3110	31.1	8
S	SEM3120	31.2	8
SEM INSERT	SEM3130	31.3	8
S	SEM3140	31.4	8
SEM INSERT	SEM3150	31.5	8
S	SEM3160	31.6	8
SEM INSERT	SEM3170	31.7	8
S	SEM3180	31.8	8
SEM INSERT	SEM3190	31.9	8
S	SEM3200	32.0	8

SEM INSERT

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SEM INSERT

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SEM INSERTS

- SEM HM Ac7320 cutting edges provide perfect results and very high productivity in stainless steel.
- HM geometry forms two chips per cutting edge for an uninterrupted, smooth chip flow. Very high metal removal rates and a reliable drilling process up to 10 x D makes HPL the superior solution for drilling in stainless steels.
- Grade KC7320 features a high Al content TiAlN coating on a universal fine-grain carbide. Its excellent oxidation stability and carbide toughness enables a high level of wear resistance in austenitic and other stainless steels.



SEM INSERTS HM Ac7320



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1250	12.5	C
S	SEM1260	12.6	C
SEM INSERT	SEM1270	12.7	C
S	SEM1280	12.8	C
SEM INSERT	SEM1290	12.9	C
S	SEM1300	13.0	C
SEM INSERT	SEM1310	13.1	C
S	SEM1320	13.2	C
SEM INSERT	SEM1330	13.3	C
S	SEM1340	13.4	C
SEM INSERT	SEM1350	13.5	C
S	SEM1360	13.6	B
SEM INSERT	SEM1370	13.7	B
S	SEM1380	13.8	B
SEM INSERT	SEM1390	13.9	B
S	SEM1400	14.0	B
SEM INSERT	SEM1410	14.1	B
S	SEM1420	14.2	B
SEM INSERT	SEM1430	14.3	B
S	SEM1440	14.4	B
SEM INSERT	SEM1450	14.5	B
S	SEM1460	14.6	A
SEM INSERT	SEM1470	14.7	A
S	SEM1480	14.8	A
SEM INSERT	SEM1490	14.9	A
S	SEM1500	15.0	A
SEM INSERT	SEM1510	15.1	A
S	SEM1520	15.2	A
SEM INSERT	SEM1530	15.3	A
S	SEM1540	15.4	A
SEM INSERT	SEM1550	15.5	A
S	SEM1560	15.6	A
SEM INSERT	SEM1570	15.7	A
S	SEM1580	15.8	A
SEM INSERT	SEM1590	15.9	1
S	SEM1600	16.0	1
SEM INSERT	SEM1610	16.1	1
S	SEM1620	16.2	1

ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1630	16.3	1
S	SEM1640	16.4	1
SEM INSERT	SEM1650	16.5	1
S	SEM1660	16.6	1
SEM INSERT	SEM1670	16.7	1
S	SEM1680	16.8	1
SEM INSERT	SEM1690	16.9	1
S	SEM1700	17.0	1
SEM INSERT	SEM1710	17.1	1
S	SEM1720	17.2	1
SEM INSERT	SEM1730	17.3	1
S	SEM1740	17.4	1
SEM INSERT	SEM1750	17.5	1
S	SEM1760	17.6	1
SEM INSERT	SEM1770	17.7	1
S	SEM1780	17.8	1
SEM INSERT	SEM1790	17.9	1
S	SEM1800	18.0	1
SEM INSERT	SEM1810	18.1	2
S	SEM1820	18.2	2
SEM INSERT	SEM1830	18.3	2
S	SEM1840	18.4	2
SEM INSERT	SEM1850	18.5	2
S	SEM1860	18.6	2
SEM INSERT	SEM1870	18.7	2
S	SEM1880	18.8	2
SEM INSERT	SEM1890	18.9	2
S	SEM1900	19.0	2
SEM INSERT	SEM1910	19.1	2
S	SEM1920	19.2	2
SEM INSERT	SEM1930	19.3	2
S	SEM1940	19.4	2
SEM INSERT	SEM1950	19.5	2
S	SEM1960	19.6	2
SEM INSERT	SEM1970	19.7	2
S	SEM1980	19.8	2
SEM INSERT	SEM1990	19.9	2
S	SEM2000	20.0	3

SEM INSERTS

SEM INSERTS HM Ac7320



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM2010	20.1	3
S	SEM2020	20.2	3
SEM INSERT	SEM2030	20.3	3
S	SEM2040	20.4	3
SEM INSERT	SEM2050	20.5	3
S	SEM2060	20.6	3
SEM INSERT	SEM2070	20.7	3
S	SEM2080	20.8	3
SEM INSERT	SEM2090	20.9	3
S	SEM2100	21.0	3
SEM INSERT	SEM2110	21.1	3
S	SEM2120	21.2	3
SEM INSERT	SEM2130	21.3	3
S	SEM2140	21.4	3
SEM INSERT	SEM2150	21.5	3
S	SEM2160	21.6	3
SEM INSERT	SEM2170	21.7	3
S	SEM2180	21.8	3
SEM INSERT	SEM2190	21.9	3
S	SEM2200	22.0	3
SEM INSERT	SEM2210	22.1	4
S	SEM2220	22.2	4
SEM INSERT	SEM2230	22.3	4
S	SEM2240	22.4	4
SEM INSERT	SEM2250	22.5	4
S	SEM2260	22.6	4
SEM INSERT	SEM2270	22.7	4
S	SEM2280	22.8	4
SEM INSERT	SEM2290	22.9	4
S	SEM2300	23.0	4
SEM INSERT	SEM2310	23.1	4
S	SEM2320	23.2	4
SEM INSERT	SEM2330	23.3	4
S	SEM2340	23.4	4
SEM INSERT	SEM2350	23.5	4
S	SEM2360	23.6	4
SEM INSERT	SEM2370	23.7	4
S	SEM2380	23.8	4
SEM INSERT	SEM2390	23.9	4
S	SEM2400	24.0	4
SEM INSERT	SEM2410	24.1	5
S	SEM2420	24.2	5
SEM INSERT	SEM2430	24.3	5
S	SEM2440	24.4	5
SEM INSERT	SEM2450	24.5	5
S	SEM2460	24.6	5
SEM INSERT	SEM2470	24.7	5
S	SEM2480	24.8	5

ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM2490	24.9	5
S	SEM2500	25.0	5
SEM INSERT	SEM2510	25.1	5
S	SEM2520	25.2	5
SEM INSERT	SEM2530	25.3	5
S	SEM2540	25.4	5
SEM INSERT	SEM2550	25.5	5
S	SEM2560	25.6	5
SEM INSERT	SEM2570	25.7	5
S	SEM2580	25.8	5
SEM INSERT	SEM2590	25.9	5
S	SEM2600	26.0	5
SEM INSERT	SEM2610	26.1	6
S	SEM2620	26.2	6
SEM INSERT	SEM2630	26.3	6
S	SEM2640	26.4	6
SEM INSERT	SEM2650	26.5	6
S	SEM2660	26.6	6
SEM INSERT	SEM2670	26.7	6
S	SEM2680	26.8	6
SEM INSERT	SEM2690	26.9	6
S	SEM2700	27.0	6
SEM INSERT	SEM2710	27.1	6
S	SEM2720	27.2	6
SEM INSERT	SEM2730	27.3	6
S	SEM2740	27.4	6
SEM INSERT	SEM2750	27.5	6
S	SEM2760	27.6	6
SEM INSERT	SEM2770	27.7	6
S	SEM2780	27.8	6
SEM INSERT	SEM2790	27.9	6
S	SEM2800	28.0	6
SEM INSERT	SEM2810	28.1	7
S	SEM2820	28.2	7
SEM INSERT	SEM2830	28.3	7
S	SEM2840	28.4	7
SEM INSERT	SEM2850	28.5	7
S	SEM2860	28.6	7
SEM INSERT	SEM2870	28.7	7
S	SEM2880	28.8	7
SEM INSERT	SEM2890	28.9	7
S	SEM2900	29.0	7
SEM INSERT	SEM2910	29.1	7
S	SEM2920	29.2	7
SEM INSERT	SEM2930	29.3	7
S	SEM2940	29.4	7
SEM INSERT	SEM2950	29.5	7
S	SEM2960	29.6	7

SEM INSERTS

SEM INSERTS HM Ac7320



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM2970	29.7	7
S	SEM2980	29.8	7
SEM INSERT	SEM2990	29.9	7
S	SEM3000	30.0	7
SEM INSERT	SEM3010	30.1	8
S	SEM3020	30.2	8
SEM INSERT	SEM3030	30.3	8
S	SEM3040	30.4	8
SEM INSERT	SEM3050	30.5	8
S	SEM3060	30.6	8
SEM INSERT	SEM3070	30.7	8
S	SEM3080	30.8	8

SEM INSERT

S

SEM INSERT

S

SEM INSERT

■ Tolerance HZ • Metric

SEM INSERT

s	D1 metric	tolerance h8
SEM INSERT	12-15-1	+0.000/-0.027
S	>18-30	+0.000/-0.033
SEM INSERT	>30-32	+0.000/-0.039
S		

■ Modular Drill Carbide Insert Blades • SEM • HM Geometry •
Grade AC7320 • Through Coolant • Metric

D1 metric		Cutting Speed – vc Range – m/min			Metric					
					Recommended Feed Rate (f) by Diameter					
		min	Starting Value	Max		12.5	16.0	20.0	25.4	32.0
M1	austenitic stainless	30	60	90	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28
M2	steel	30	50	90	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28
M3	Austenitic/Cast	20	40	60	mm/r	0.09-0.14	0.11-0.17	0.13-0.20	0.16-0.25	0.18-0.28

Stainless Steel

Duplex stainless
steel

SEM INSERTS

ACPM45 grade multilayer TiAlN coated, very tough carbide substrate.
Improved chipping resistance in demanding machining conditions.



■ SEM INSERTS HQ ACPM45



ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1250	12.5	C
S	SEM1260	12.6	C
SEM INSERT	SEM1270	12.7	C
S	SEM1280	12.8	C
SEM INSERT	SEM1290	12.9	C
S	SEM1300	13.0	C
SEM INSERT	SEM1310	13.1	C
S	SEM1320	13.2	C
SEM INSERT	SEM1330	13.3	C
S	SEM1340	13.4	C
SEM INSERT	SEM1350	13.5	C
S	SEM1360	13.6	B
SEM INSERT	SEM1370	13.7	B
S	SEM1380	13.8	B
SEM INSERT	SEM1390	13.9	B
S	SEM1400	14.0	B
SEM INSERT	SEM1410	14.1	B
S	SEM1420	14.2	B
SEM INSERT	SEM1430	14.3	B
S	SEM1440	14.4	B
SEM INSERT	SEM1450	14.5	B
S	SEM1460	14.6	A
SEM INSERT	SEM1470	14.7	A
S	SEM1480	14.8	A
SEM INSERT	SEM1490	14.9	A
S	SEM1500	15.0	A
SEM INSERT	SEM1510	15.1	A
S	SEM1520	15.2	A
SEM INSERT	SEM1530	15.3	A
S	SEM1540	15.4	A
SEM INSERT	SEM1550	15.5	A
S	SEM1560	15.6	A
SEM INSERT	SEM1570	15.7	A
S	SEM1580	15.8	A
SEM INSERT	SEM1590	15.9	1
S	SEM1600	16.0	1
SEM INSERT	SEM1610	16.1	1
S	SEM1620	16.2	1

SEM INSERT

S

SEM INSERT

S

SEM INSERT

S

ITEM	SIZES	DIA	SEM_DRILL TYPE
SEM INSERT	SEM1630	16.3	1
S	SEM1640	16.4	1
SEM INSERT	SEM1650	16.5	1
S	SEM1660	16.6	1
SEM INSERT	SEM1670	16.7	1
S	SEM1680	16.8	1
SEM INSERT	SEM1690	16.9	1
S	SEM1700	17.0	1
SEM INSERT	SEM1710	17.1	1
S	SEM1720	17.2	1
SEM INSERT	SEM1730	17.3	1
S	SEM1740	17.4	1
SEM INSERT	SEM1750	17.5	1
S	SEM1760	17.6	1
SEM INSERT	SEM1770	17.7	1
S	SEM1780	17.8	1
SEM INSERT	SEM1790	17.9	1
S	SEM1800	18.0	1
SEM INSERT	SEM1810	18.1	2
S	SEM1820	18.2	2
SEM INSERT	SEM1830	18.3	2
S	SEM1840	18.4	2
SEM INSERT	SEM1850	18.5	2
S	SEM1860	18.6	2
SEM INSERT	SEM1870	18.7	2
S	SEM1880	18.8	2
SEM INSERT	SEM1890	18.9	2
S	SEM1900	19.0	2
SEM INSERT	SEM1910	19.1	2
S	SEM1920	19.2	2
SEM INSERT	SEM1930	19.3	2
S	SEM1940	19.4	2
SEM INSERT	SEM1950	19.5	2
S	SEM1960	19.6	2
SEM INSERT	SEM1970	19.7	2
S	SEM1980	19.8	2
SEM INSERT	SEM1990	19.9	2
S	SEM2000	20.0	3

SEM INSERT

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SEM INSERT

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SEM INSERT

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SEM INSERTS

SEM INSERTS HQ ACPM45



ITEM	SIZES	DIA	SEM DRILL TYPE
SEM INSERT	SEM2010	20.1	3
S	SEM2020	20.2	3
SEM INSERT	SEM2030	20.3	3
S	SEM2040	20.4	3
SEM INSERT	SEM2050	20.5	3
S	SEM2060	20.6	3
SEM INSERT	SEM2070	20.7	3
S	SEM2080	20.8	3
SEM INSERT	SEM2090	20.9	3
S	SEM2100	21.0	3
SEM INSERT	SEM2110	21.1	3
S	SEM2120	21.2	3
SEM INSERT	SEM2130	21.3	3
S	SEM2140	21.4	3
SEM INSERT	SEM2150	21.5	3
S	SEM2160	21.6	3
SEM INSERT	SEM2170	21.7	3
S	SEM2180	21.8	3
SEM INSERT	SEM2190	21.9	3
S	SEM2200	22.0	3
SEM INSERT	SEM2210	22.1	4
S	SEM2220	22.2	4
SEM INSERT	SEM2230	22.3	4
S	SEM2240	22.4	4
SEM INSERT	SEM2250	22.5	4
S	SEM2260	22.6	4
SEM INSERT	SEM2270	22.7	4
S	SEM2280	22.8	4
SEM INSERT	SEM2290	22.9	4
S	SEM2300	23.0	4
SEM INSERT	SEM2310	23.1	4
S	SEM2320	23.2	4
SEM INSERT	SEM2330	23.3	4
S	SEM2340	23.4	4
SEM INSERT	SEM2350	23.5	4
S	SEM2360	23.6	4
SEM INSERT	SEM2370	23.7	4
S	SEM2380	23.8	4
SEM INSERT	SEM2390	23.9	4
S	SEM2400	24.0	4
SEM INSERT	SEM2410	24.1	5
S	SEM2420	24.2	5
SEM INSERT	SEM2430	24.3	5
S	SEM2440	24.4	5
SEM INSERT	SEM2450	24.5	5
S	SEM2460	24.6	5
SEM INSERT	SEM2470	24.7	5
S	SEM2480	24.8	5

SEM INSERT
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SEM INSERTS

SEM INSERTS HQ ACPM45



ITEM	SIZES	DIA	SEM DRILL TYPE
SEM INSERT	SEM2970	29.7	7
S	SEM2980	29.8	7
SEM INSERT	SEM2990	29.9	7
S	SEM3000	30.0	7
SEM INSERT	SEM3010	30.1	8
S	SEM3020	30.2	8
SEM INSERT	SEM3030	30.3	8
S	SEM3040	30.4	8
SEM INSERT	SEM3050	30.5	8
S	SEM3060	30.6	8
SEM INSERT	SEM3070	30.7	8
S	SEM3080	30.8	8

SEM INSERT

S

SEM INSERT

S

SEM INSERT

S

■ Tolerance HZ • Metric

D1 metric	tolerance h8
S 12.5-1	+0.000/-0.027
S 1.6-30	+0.000/-0.033
S >30-32	+0.000/-0.039

SEM INSERT

S

■ Modular Drill Carbide Insert Blades • SEM • HM Geometry •
Grade ACPM45 • Through Coolant • Metric

D1 metric		Cutting Speed – vc Range – m/min			Metric					
					Recommended Feed Rate (f) by Diameter					
		min	Starting Value	Max		12.5	16.0	20.0	25.4	32.0
P1	Mild steel	90	100	110	mm/r	0.14-0.23	0.17-0.25	0.19-0.29	0.23-0.38	0.26-0.43
P2	Medium carbon steel, high carbon steel	80	90	100	mm/r	0.17-0.23	0.19-0.25	0.22-0.29	0.29-0.38	0.32-0.43
P3	Alloy steel/tool steel	55	65	75	mm/r	0.14-0.20	0.15-0.23	0.17-0.25	0.23-0.34	0.26-0.38
P4	Alloy steel/tool steel	50	65	70	mm/r	0.11-0.20	0.13-0.23	0.14-0.25	0.18-0.34	0.21-0.38
P5	Austenitic/Cast Stainless Steel	45	50	60	mm/r	0.08-0.11	0.10-0.13	0.11-0.14	0.14-0.18	0.15-0.20
P6	High strength ferrite Martensitic stainless steel	45	55	65	mm/r	0.11-0.17	0.13-0.18	0.14-0.20	0.18-0.28	0.21-0.31

ITEM	SIZES	DIA	SEM DRILL TYPE
SEM INSERT	SEM3090	30.9	8
S	SEM3100	31.0	8
SEM INSERT	SEM3110	31.1	8
S	SEM3120	31.2	8
SEM INSERT	SEM3130	31.3	8
S	SEM3140	31.4	8
SEM INSERT	SEM3150	31.5	8
S	SEM3160	31.6	8
SEM INSERT	SEM3170	31.7	8
S	SEM3180	31.8	8
SEM INSERT	SEM3190	31.9	8
S	SEM3200	32.0	8

SEM INSERT

S

SEM INSERT

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SEM INSERT

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SEM INSERT

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SEM INSERT

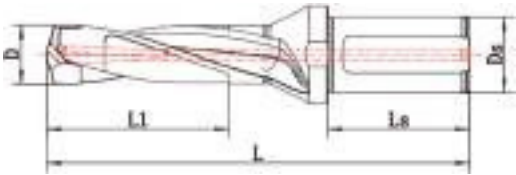
S

SEM INSERT

S

SEM DRILL 3D

All drill shall use the specified type of inserts
For options, see the inserts list.
Send screw and wrenches together with sem drill

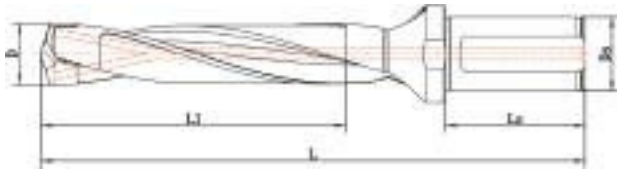


■ SEMWD3XDMeric

3 x D Specification/Item	D/mm		L/mm	L1/mm	Ls/mm	Ds/mm	SEM DRILL TYPE		
	MIN	MAX							
SEM125R3WD16M	12.5	13	109	39	45	16	C	T5x160	M2.5/M2.5x13
SEM130R3WD16M	13	13.5	109	39	45	16	C	T5x160	M2.5/M2.5x13
SEM136R3WD16M	13.51	14	111	42	45	16	B	T6x160	M3/M2.5x14
SEM140R3WD16M	14	14.5	111	42	45	16	B	T6x160	M3/M2.5x14
SEM146R3WD16M	14.51	15	126	46	50	16	A	T6x160	M3/M2.5x14
SEM150R3WD20M	15	15.87	126	46	50	20	A	T6x160	M3/M2.5x14
SEM160R3WD20M	15.88	17	129	49	50	20	1	T7x185	M3.5/M2.5x16
SEM170R3WD20M	17	18	132	52	50	20	1	T7x185	M3.5/M2.5x16
SEM181R3WD25M	18.01	19	147	55	56	25	2	H2x210	M4/M3x19
SEM190R3WD25M	19	20	151	58	56	25	2	H2x210	M4/M3x19
SEM200R3WD25M	20	21	154	61	56	25	3	H2x210	M4/M3x19
SEM210R3WD25M	21	22	157	64	56	25	3	H2x210	M4/M3x19
SEM221R3WD25M	22.01	23	161	68	56	25	4	H2x210	M4/M3x19
SEM230R3WD25M	23	24	163	70	56	25	4	H2x210	M4/M3x19
SEM241R3WD32M	24.01	25	176	73	60	32	5	H2.5x240	M5/M4x23
SEM250R3WD32M	25	26	179	76	60	32	5	H2.5x240	M5/M4x23
SEM261R3WD32M	26.01	27	182	79	60	32	6	H2.5x240	M5/M4x23
SEM270R3WD32M	27	28	184	81	60	32	6	H2.5x240	M5/M4x23
SEM281R3WD32M	28.01	29	189	86	60	32	7	H3x265	M6/M5x28
SEM290R3WD32M	29	30	192	89	60	32	7	H3x265	M6/M5x28
SEM301R3WD32M	30.01	31	195	92	60	32	8	H3x265	M6/M5x28
SEM310R3WD32M	31	32	198	95	60	32	8	H3x265	M6/M5x28

SEM DRILL 5D

All drill shall use the specified type of inserts
For options, see the inserts list.
Send screw and wrenches together with sem drill

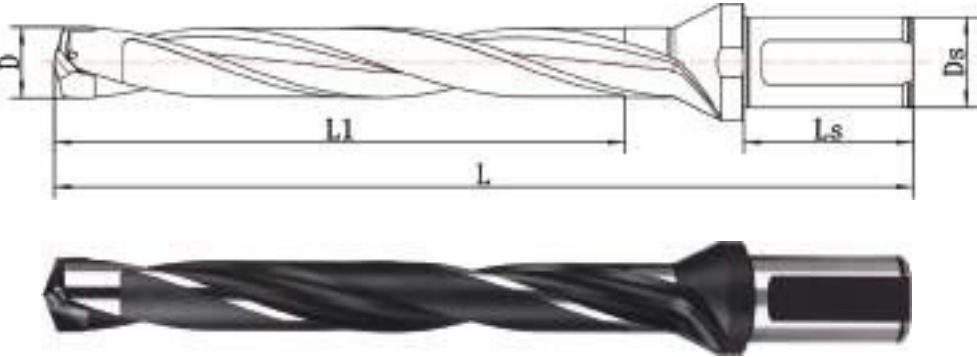


■ SEMWD3XDMeric

 5 x D Specification/Item	D/mm		L/mm	L1/mm	Ls/mm	Ds/mm	SEM DRILL TYPE		
	MIN	MAX							
SEM125R5WD16M	12.5	13	133	65	45	16	C	T5x160	M2.5/M2.5x13
SEM130R5WD16M	13	13.5	133	65	45	16	C	T5x160	M2.5/M2.5x13
SEM136R5WD16M	13.51	14	138	70	45	16	B	T6x160	M3/M2.5x14
SEM140R5WD16M	14	14.5	138	70	45	16	B	T6x160	M3/M2.5x14
SEM146R5WD16M	14.51	15	156	76	50	16	A	T6x160	M3/M2.5x14
SEM150R5WD20M	15	15.87	156	76	50	20	A	T6x160	M3/M2.5x14
SEM160R5WD20M	15.88	17	161	81	50	20	1	T7x185	M3.5/M2.5x16
SEM170R5WD20M	17	18	166	86	50	20	1	T7x185	M3.5/M2.5x16
SEM181R5WD25M	18.01	19	183	91	56	25	2	H2x210	M4/M3x19
SEM190R5WD25M	19	20	189	96	56	25	2	H2x210	M4/M3x19
SEM200R5WD25M	20	21	194	101	56	25	3	H2x210	M4/M3x19
SEM210R5WD25M	21	22	199	106	56	25	3	H2x210	M4/M3x19
SEM221R5WD25M	22.01	23	205	112	56	25	4	H2x210	M4/M3x19
SEM230R5WD25M	23	24	209	116	56	25	4	H2x210	M4/M3x19
SEM241R5WD32M	24.01	25	224	121	60	32	5	H2.5x240	M5/M4x23
SEM250R5WD32M	25	26	229	126	60	32	5	H2.5x240	M5/M4x23
SEM261R5WD32M	26.01	27	234	131	60	32	6	H2.5x240	M5/M4x23
SEM270R5WD32M	27	28	238	135	60	32	6	H2.5x240	M5/M4x23
SEM281R5WD32M	28.01	29	245	142	60	32	7	H3x265	M6/M5x28
SEM290R5WD32M	29	30	250	147	60	32	7	H3x265	M6/M5x28
SEM301R5WD32M	30.01	31	256	153	60	32	8	H3x265	M6/M5x28
SEM310R5WD32M	31	32	260	157	60	32	8	H3x265	M6/M5x28

SEM DRILL 8D

All drill shall use the specified type of inserts
For options, see the inserts list.
Send screw and wrenches together with sem drill



■ SEMWD 8XD Meric

 8 x D Specification/Item	D/mm		L/mm	L1/mm	Ls/mm	Ds/mm	SEM DRILL TYPE	 wrench	 screw
	MIN	MAX							
SEM125R8WD16M	12.5	13	172	104	45	16	C	T5x190	M2.5/M2.5x13
SEM130R8WD16M	13	13.5	172	104	45	16	C	T5x190	M2.5/M2.5x13
SEM136R8WD16M	13.51	14	180	112	45	16	B	T6x190	M3/M2.5x14
SEM140R8WD16M	14	14.5	180	112	45	16	B	T6x190	M3/M2.5x14
SEM146R8WD16M	14.51	15	201	121	50	16	A	T6x190	M3/M2.5x14
SEM150R8WD20M	15	15.87	201	121	50	20	A	T6x190	M3/M2.5x14
SEM160R8WD20M	15.88	17	209	129	50	20	1	T7x225	M3.5/M2.5x16
SEM170R8WD20M	17	18	217	137	50	20	1	T7x225	M3.5/M2.5x16
SEM181R8WD25M	18.01	19	237	145	56	25	2	H2x260	M4/M3x19
SEM190R8WD25M	19	20	246	153	56	25	2	H2x260	M4/M3x19
SEM200R8WD25M	20	21	254	161	56	25	3	H2x260	M4/M3x19
SEM210R8WD25M	21	22	262	169	56	25	3	H2x260	M4/M3x19
SEM221R8WD25M	22.01	23	270	177	56	25	4	H2x260	M4/M3x19
SEM230R8WD25M	23	24	278	185	56	25	4	H2x260	M4/M3x19
SEM241R8WD32M	24.01	25	296	193	60	32	5	H2.5x295	M5/M4x23
SEM250R8WD32M	25	26	304	201	60	32	5	H2.5x295	M5/M4x23
SEM261R8WD32M	26.01	27	312	209	60	32	6	H2.5x295	M5/M4x23
SEM270R8WD32M	27	28	319	216	60	32	6	H2.5x295	M5/M4x23
SEM281R8WD32M	28.01	29	329	226	60	32	7	H3x330	M6/M5x28
SEM290R8WD32M	29	30	337	234	60	32	7	H3x330	M6/M5x28
SEM301R8WD32M	30.01	31	345	242	60	32	8	H3x330	M6/M5x28
SEM310R8WD32M	31	32	353	250	60	32	8	H3x330	M6/M5x28

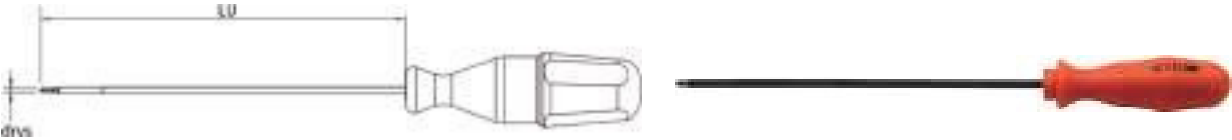
SEM DRILL 10D

All drill shall use the specified type of inserts
For options, see the inserts list.
Send screw and wrenches together with sem drill



■ SEMWD 10XD Meric

 10 x D Specification/Item	D/mm		L/mm	L1/mm	Ls/mm	Ds/mm	SEM DRILL TYPE	 wrench	 screw
	MIN	MAX							
SEM125R10WD16M	12.5	13	266	130	45	16	C	T5x290	M2.5/M2.5x13
SEM130R10WD16M	13	13.5	266	130	45	16	C	T5x290	M2.5/M2.5x13
SEM136R10WD16M	13.51	14	276	140	45	16	B	T6x290	M3/M2.5x14
SEM140R10WD16M	14	14.5	276	140	45	16	B	T6x290	M3/M2.5x14
SEM146R10WD16M	14.51	15	312	152	50	16	A	T6x290	M3/M2.5x14
SEM150R10WD20M	15	15.87	312	152	50	20	A	T6x290	M3/M2.5x14
SEM160R10WD20M	15.88	17	322	162	50	20	1	T7x300	M3.5/M2.5x16
SEM170R10WD20M	17	18	332	172	50	20	1	T7x300	M3.5/M2.5x16
SEM181R10WD25M	18.01	19	366	182	56	25	2	H2x345	M4/M3x19
SEM190R10WD25M	19	20	378	192	56	25	2	H2x345	M4/M3x19
SEM200R10WD25M	20	21	388	202	56	25	3	H2x345	M4/M3x19
SEM210R10WD25M	21	22	398	212	56	25	3	H2x345	M4/M3x19
SEM221R10WD25M	22.01	23	410	224	56	25	4	H2x345	M4/M3x19
SEM230R10WD25M	23	24	418	232	56	25	4	H2x345	M4/M3x19
SEM241R10WD32M	24.01	25	448	242	60	32	5	H2.5x395	M5/M4x23
SEM250R10WD32M	25	26	458	252	60	32	5	H2.5x395	M5/M4x23
SEM261R10WD32M	26.01	27	468	262	60	32	6	H2.5x395	M5/M4x23
SEM270R10WD32M	27	28	476	270	60	32	6	H2.5x395	M5/M4x23
SEM281R10WD32M	28.01	29	490	284	60	32	7	H3x440	M6/M5x28
SEM290R10WD32M	29	30	500	294	60	32	7	H3x440	M6/M5x28
SEM301R10WD32M	30.01	31	512	306	60	32	8	H3x440	M6/M5x28
SEM310R10WD32M	31	32	520	314	60	32	8	H3x440	M6/M5x28



■ SEM • WRENCH

wrench	screw	drvs	Lu
T5x160	M2.5/M2.5x13	T5	160.00
T5x190	M2.5/M2.5x13	T5	190.00
T5x290	M2.5/M2.5x13	T5	290.00
T6x160	M3/M2.5x14	T6	160.00
T6x190	M3/M2.5x14	T6	190.00
T6x290	M3/M2.5x14	T6	290.00
T7x185	M3.5/M2.5x16	T7	185.00
T7x225	M3.5/M2.5x16	T7	225.00
T7x300	M3.5/M2.5x16	T7	300.00
H2x210	M4/M3x19	2mm	210.00
H2x260	M4/M3x19	2mm	260.00
H2x345	M4/M3x19	2mm	345.00
H2.5x240	M5/M4x23	2.5mm	240.00
H2.5x295	M5/M4x23	2.5mm	295.00
H2.5x395	M5/M4x23	2.5mm	395.00
H3x265	M6/M5x28	3mm	265.00
H3x330	M6/M5x28	3mm	330.00
H3x440	M6/M5x28	3mm	440.00

Inserts

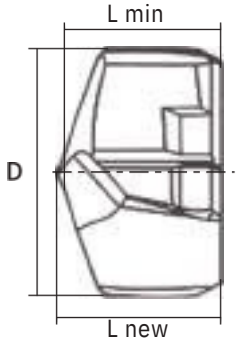
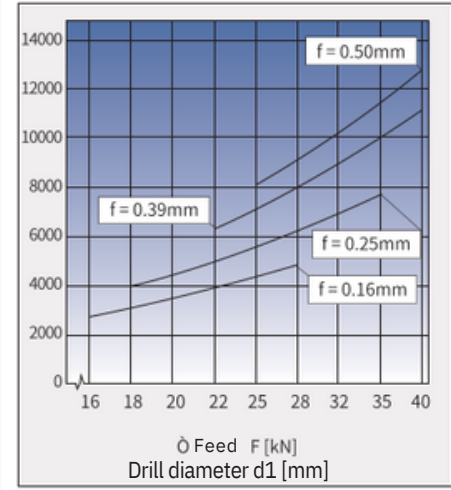
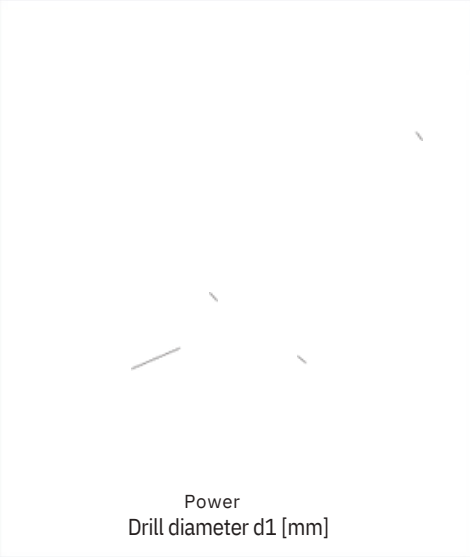
1.

2.

1) Use a screwdriver to set the screw pin: the blade should be aligned with the height of the drill face.

2) Use a screwdriver to tighten the inserts and position it firmly in the inserts seat.

When replacing the inserts, turn the clamping screw counterclockwise until the insert is loosened.

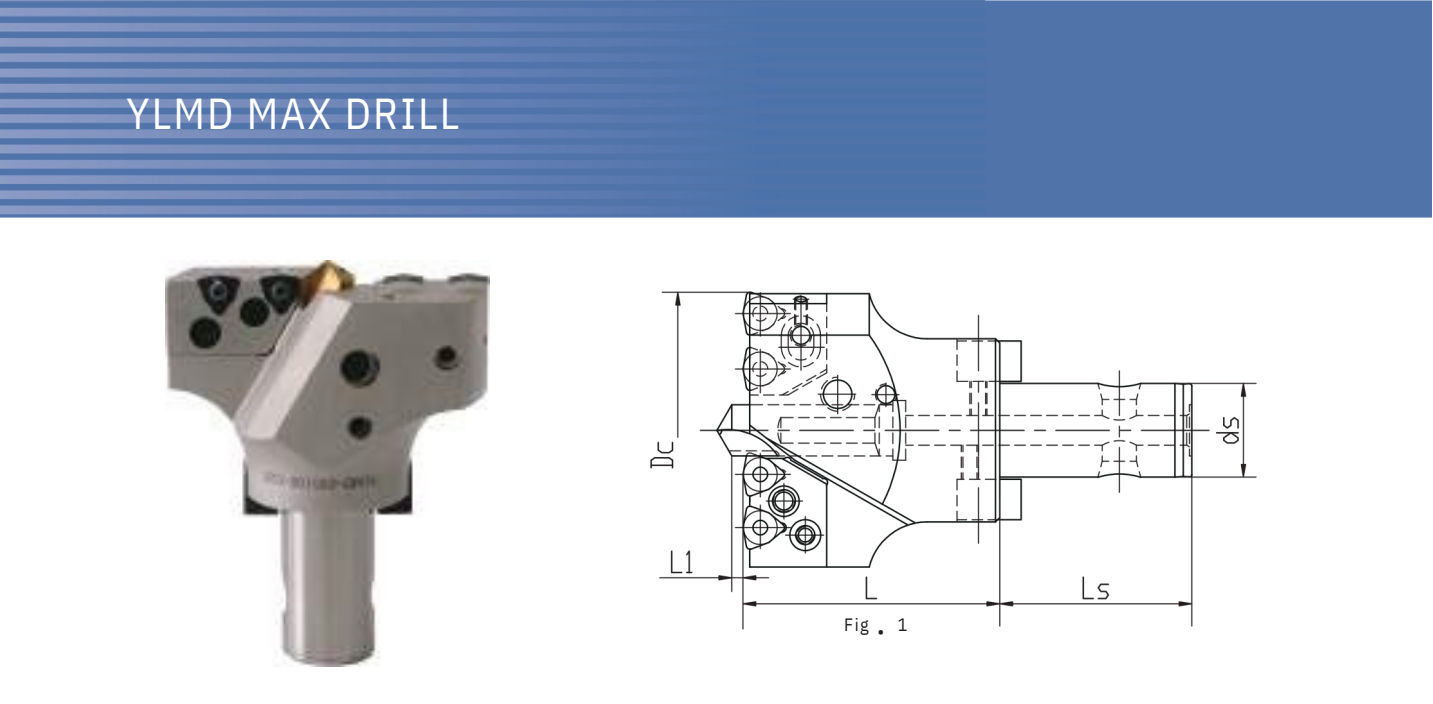
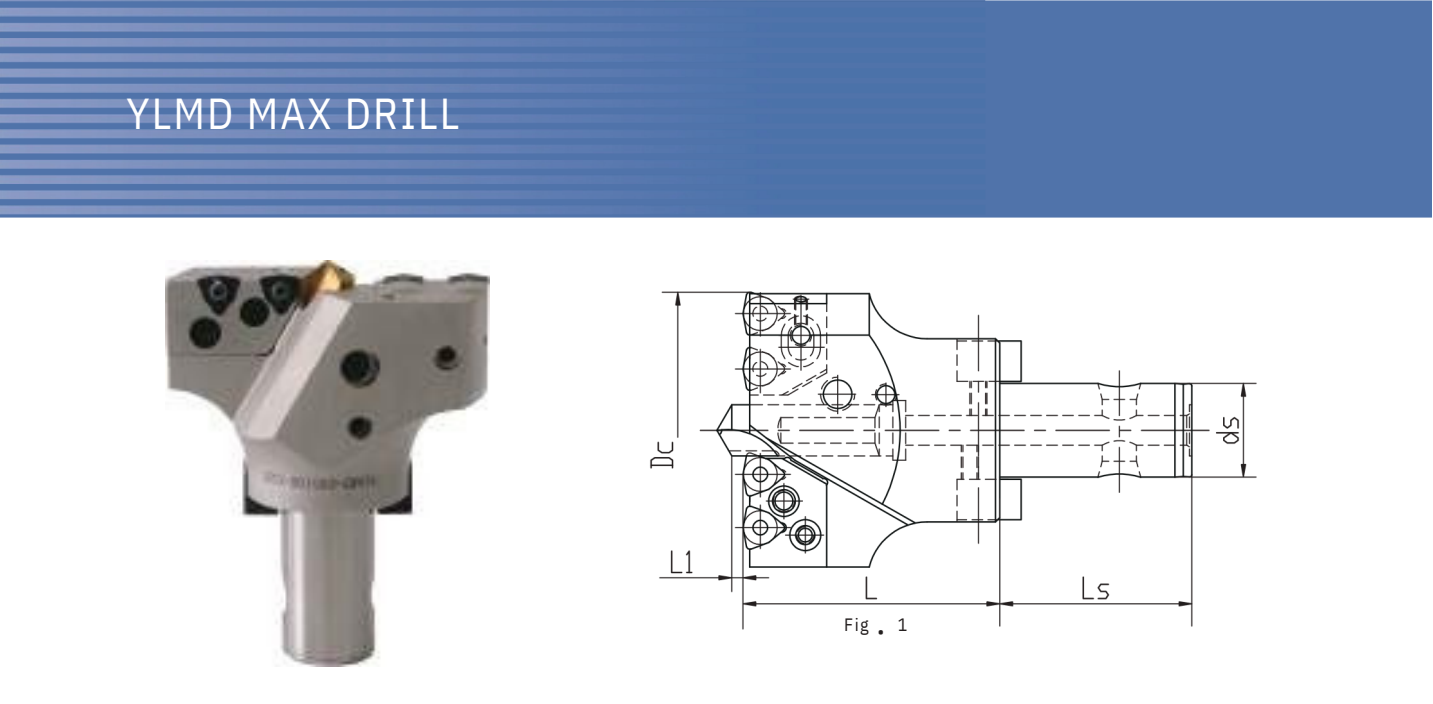


The following coolant pressure is recommended:

relative drilling depth	coolant pressure
3 x D	8 bars
5 x D	12 bars
8 x D	20 bars
10 x D	30 bars

insert seat size	diameter range D (mm)	L min (mm)	L new (mm)
C	12.50-13.50	8.5	9.6
B	13.51-14.50	8.9	10.1
A	14.51-15.89	9.4	10.6
1	15.90-18.00	10.3	11.6
2	18.01-19.99	11.2	12.6
3	20.00-22.00	12.1	13.6
4	22.01-24.00	13.0	14.6
5	24.01-26.00	13.9	15.6
6	26.01-28.00	14.8	16.6
7	28.01-30.00	15.7	17.6
8	30.01-32.00	16.6	18.6

◀ NOTE: The diagrams above are used to determine the drive power, feed force, and torque. They are based on cutting force measurement in tempered steels in Cgr. 6. Tensile strength: Rm = 600 N/mm2. The base cutting speed used is: vc = 80 m/min.



YLMD MAX DRILL

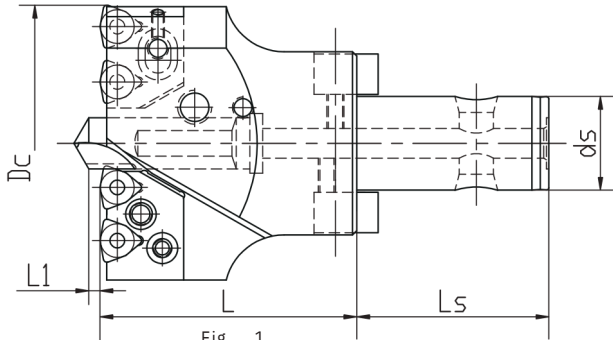


Fig. 1

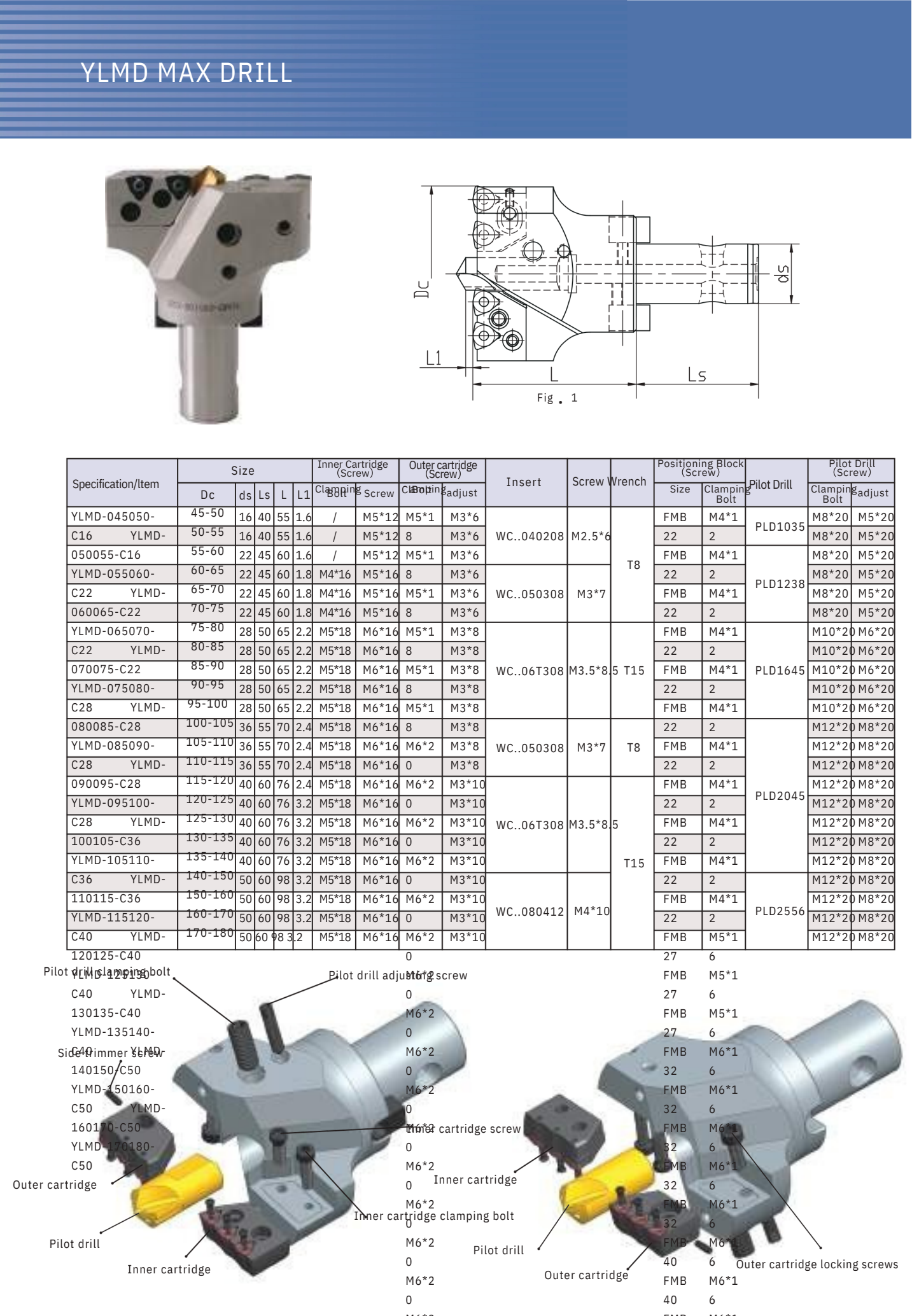
YLMD MAX DRILL

Specification/Item	Size					Inner Cartridge (Screw)		Outer cartridge (Screw)		Insert	Screw	Wrench	Positioning Block (Screw)		Pilot Drill	Pilot Drill (Screw)	
	Dc	ds	Ls	L	L1	Clamping	Screw	Clamping	adjust				Size	Clamping Bolt		Clamping Bolt	adjust
YLMD-045050-	45-50	16	40	55	1.6	/	M5*12	M5*1	M3*6	WC..040208	M2.5*6	T8	FMB	M4*1	PLD1035	M8*20	M5*20
C16 YLMD-	50-55	16	40	55	1.6	/	M5*12	8	M3*6				22	2		M8*20	M5*20
050055-C16	55-60	22	45	60	1.6	/	M5*12	M5*1	M3*6				FMB	M4*1		M8*20	M5*20
YLMD-055060-	60-65	22	45	60	1.8	M4*16	M5*16	8	M3*6	WC..050308	M3*7	T8	22	2	PLD1238	M8*20	M5*20
C22 YLMD-	65-70	22	45	60	1.8	M4*16	M5*16	M5*1	M3*6				FMB	M4*1		M8*20	M5*20
060065-C22	70-75	22	45	60	1.8	M4*16	M5*16	8	M3*6				22	2		M8*20	M5*20
YLMD-065070-	75-80	28	50	65	2.2	M5*18	M6*16	M5*1	M3*8	WC..06T308	M3.5*8.5	T15	FMB	M4*1	PLD1645	M10*20	M6*20
C22 YLMD-	80-85	28	50	65	2.2	M5*18	M6*16	8	M3*8				22	2		M10*20	M6*20
070075-C22	85-90	28	50	65	2.2	M5*18	M6*16	M5*1	M3*8				FMB	M4*1		M10*20	M6*20
YLMD-075080-	90-95	28	50	65	2.2	M5*18	M6*16	8	M3*8	WC..050308	M3*7	T8	22	2	PLD2045	M10*20	M6*20
C28 YLMD-	95-100	28	50	65	2.2	M5*18	M6*16	M5*1	M3*8				FMB	M4*1		M10*20	M6*20
080085-C28	100-105	36	55	70	2.4	M5*18	M6*16	8	M3*8				22	2		M12*20	M8*20
YLMD-085090-	105-110	36	55	70	2.4	M5*18	M6*16	M6*2	M3*8	WC..06T308	M3.5*8.5	T15	FMB	M4*1	PLD2556	M12*20	M8*20
C28 YLMD-	110-115	36	55	70	2.4	M5*18	M6*16	0	M3*8				22	2		M12*20	M8*20
090095-C28	115-120	40	60	76	2.4	M5*18	M6*16	M6*2	M3*10				FMB	M4*1		M12*20	M8*20
YLMD-095100-	120-125	40	60	76	3.2	M5*18	M6*16	0	M3*10	WC..06T308	M3.5*8.5	T15	22	2	PLD2045	M12*20	M8*20
C28 YLMD-	125-130	40	60	76	3.2	M5*18	M6*16	M6*2	M3*10				FMB	M4*1		M12*20	M8*20
100105-C36	130-135	40	60	76	3.2	M5*18	M6*16	0	M3*10				22	2		M12*20	M8*20
YLMD-105110-	135-140	40	60	76	3.2	M5*18	M6*16	M6*2	M3*10	WC..080412	M4*10	T15	FMB	M4*1	PLD2556	M12*20	M8*20
C36 YLMD-	140-150	50	60	98	3.2	M5*18	M6*16	0	M3*10				22	2		M12*20	M8*20
110115-C36	150-160	50	60	98	3.2	M5*18	M6*16	M6*2	M3*10								
YLMD-115120-	160-170	50	60	98	3.2	M5*18	M6*16	0	M3*10	WC..080412	M4*10	T15	22	2	PLD2556	M12*20	M8*20
C40 YLMD-	170-180	50	60	98	3.2	M5*18	M6*16	M6*2	M3*10				FMB	M5*1		M12*20	M8*20

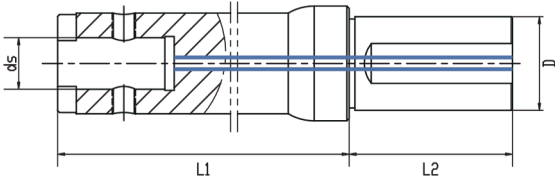
Pilot drill clamping bolt
C40 YLMD-
130135-C40
YLMD-135140-
Side trimmer YLMD-
140150-C50
YLMD-150160-
C50 YLMD-
160170-C50
YLMD-170180-
C50

Outer cartridge
Pilot drill
Inner cartridge
Inner cartridge clamping bolt
Outer cartridge locking screws
Pilot drill
Outer cartridge

Inner cartridge screw
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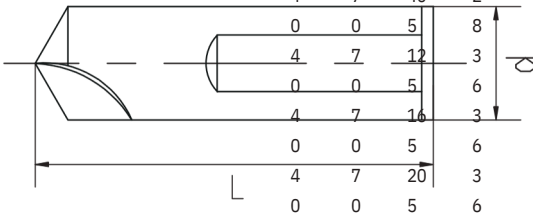


YLMD HOLDER & PILOT DRILL



Specification/Item	Data			
	D	L2	L1	ds
C40-D16-	4	7	12	1
125 C40-	0	0	5	6
D16-165	4	7	16	1
C40-D16-	0	0	5	6
205 C40-	4	7	20	1
D22-125	0	0	5	6
C40-D22-	4	7	12	2
165 C40-	0	0	5	2
D22-205	4	7	16	2
C40-D22-	0	0	5	2
255 C40-	4	7	20	2
D22-305	0	0	5	2
C40-D22-	4	7	25	2
355 C40-	0	0	5	2
D28-125	4	7	30	2
C40-D28-	0	0	5	2
165 C40-	4	7	35	2
D28-205	0	0	5	2
C40-D28-	4	7	12	2
255 C40-	0	0	5	8
D28-305	4	7	16	2
C40-D28-	0	0	5	8
355 C40-	4	7	20	2
D28-405	0	0	5	8
C40-D36-	4	7	25	2
125 C40-	0	0	5	8
D36-165	4	7	30	2
C40-D36-	0	0	5	8

© PILOT DRILL



© The hole tolerance of U Drill

Specification/Item	Data	
	D	L
PLD-	0	2
0620	6	0
PLD-	0	2
0825	8	5
PLD-	1	3
1035	0	5
PLD-	1	3
1238	2	8
PLD-	1	4
1645	6	5
PLD-	2	4
2045	0	5

Specification/Item	Data			
	D	L2	L1	ds
C40-D36-	4	7	25	3
255 C40-	0	0	5	6
D36-305	4	7	30	3
C40-D36-	0	0	5	6
355 C40-	4	7	35	3
D36-405	0	0	5	6
C50-D40-	4	7	40	3
125 C50-	0	0	5	6
D40-165	5	8	12	4
C50-D40-	0	0	5	0
205 C50-	5	8	16	4
D40-255	0	0	5	0
C50-D40-	5	8	20	4
305 C50-	0	0	5	0
D40-355	5	8	25	4
C50-D40-	0	0	5	0
405 C50-	5	8	30	4
D50-125	0	0	5	0
C50-D50-	5	8	35	4

▲ Plug the thread hole when using to prevent water leakage. When using internal cooling, plug the water outlet hole with a plug.

165 C50-	0	0	5	0
D50-205	5	8	10	0
C50-D50-	5	8	16	5
355 C50-	0	0	5	0
D50-405	5	8	20	5
	0	0	5	0
	5	8	25	5
	0	0	5	0
	5	8	30	5
	0	0	5	0
	5	8	35	5
	0	0	5	0
	5	8	40	5
	0	0	5	0



InDexable Insert Drill Cutting Condition

InDexable Insert Drill Cutting Condition

◎ Recommended Cutting Conditions (2D~3D)

Minimum value~Recommended value~Maximum value

		Work Material	Hardness of Workpiece	Recommended Chipbreaker	Recommended Insert Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)				
			HB				φ 13.0~ φ 18.0	φ 18.5~ φ 29.0	φ 29.5~ φ 36.0	φ 37.0~ φ 55.0	φ 56.0~ φ 68.0
2D	P	Carbon Steel SS400	125	G	ACP300	105~155~205	0.04~0.07~0.09	0.04~0.07~0.09	0.04~0.07~0.10	0.04~0.07~0.11	0.05~0.08~0.12
		" S15C	125	L	ACP300	115~145~190	0.03~0.07~0.11	0.03~0.07~0.11	0.03~0.07~0.12	0.05~0.10~0.14	0.06~0.11~0.16
		" S45C Hardened	190	G	ACP300	85~130~170	0.07~0.12~0.22	0.07~0.12~0.22	0.07~0.13~0.24	0.08~0.15~0.27	0.09~0.16~0.30
		" S45C	250	G	ACP300	70~105~140	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.07~0.13~0.22
		" S75C	270	G	ACP300	85~115~140	0.07~0.12~0.20	0.07~0.12~0.20	0.07~0.13~0.21	0.08~0.15~0.24	0.09~0.16~0.27
		" S75C Hardened	300	G	ACP300	60~85~120	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		Low Alloy Steel 20crmo~42crmo/SCM,SNCM	180	L	ACP300	85~120~155	0.04~0.09~0.13	0.04~0.07~0.13	0.04~0.07~0.15	0.05~0.08~0.16	0.06~0.09~0.18
		" 20crmo~42crmo/SCM,SNCM Hardened	275	G	ACP300	70~105~140	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		" 20crmo~42crmo/SCM,SNCM Hardened	300	G	ACP300	65~95~120	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		" 20crmo~42crmo/SCM,SNCM Hardened	350	G	ACP300	55~75~95	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		High Alloy Steel SKD,SKT,SKH	200	G	ACP300	85~115~140	0.07~0.12~0.22	0.07~0.12~0.22	0.07~0.13~0.24	0.08~0.15~0.27	0.09~0.16~0.30
		" SKD,SKT,SKH	325	G	ACP300	70~85~105	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.07~0.13~0.22
	M	Stainless Steel SUS403 and other's(Martensite/Ferrite)	200	G	ACP300	85~120~155	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.08~0.13~0.22
		" SUS403 and other's Martensitic (Hardened)	240	G	ACP300	80~105~130	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.08~0.13~0.22
		" SUS304, SUS316 Austenitic	180	G	ACP300	85~120~155	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.08~0.13~0.22
	K	Cast Iron		H	ACK300	105~140~170	0.08~0.19~0.30	0.09~0.20~0.34	0.10~0.22~0.37	0.11~0.24~0.41	0.12~0.27~0.45
		Ductile Cast Iron		H	ACK300	80~105~130	0.08~0.19~0.30	0.09~0.20~0.34	0.10~0.22~0.37	0.11~0.24~0.41	0.12~0.27~0.45
	S	Exotic Alloy (Heat Resistant Alloy, super Alloy, Ti Alloy, etc.)	200	G	ACP300	25~45~60	0.05~0.10~0.17	0.05~0.10~0.17	0.05~0.11~0.18	0.06~0.12~0.20	0.07~0.13~0.22
	N	Aluminium Alloy		G	DL1500	170~225~275	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		Copper Alloy		G	DL1500	155~200~240	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20

It the first recommended insert grades for P and K , In such cases, Please use a cutting speed vc of 130% in the table above and a feed rate of 75% for the recommended cutting conditions.

		Work Material	Hardness of Workpiece	Recommended Chipbreaker	Recommended Insert Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)				
			HB				φ 13.0~ φ 18.0	φ 18.5~ φ 29.0	φ 29.5~ φ 36.0	φ 37.0~ φ 55.0	φ 56.0~ φ 68.0
3D	P	Carbon Steel SS400	125	G	ACP300	105~155~205	0.04~0.06~0.09	0.04~0.06~0.09	0.04~0.07~0.10	0.04~0.07~0.11	0.05~0.08~0.12
		" S15C	125	L	ACP300	115~145~190	0.03~0.06~0.09	0.03~0.06~0.09	0.03~0.07~0.10	0.04~0.08~0.11	0.05~0.09~0.12
		" S45C Hardened	190	G	ACP300	85~130~170	0.07~0.11~0.19	0.07~0.11~0.19	0.07~0.12~0.20	0.08~0.13~0.22	0.09~0.15~0.25
		" S45C	250	G	ACP300	70~105~140	0.06~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
		" S75C	270	G	ACP300	85~115~140	0.08~0.11~0.17	0.07~0.11~0.17	0.07~0.12~0.18	0.08~0.13~0.20	0.09~0.15~0.22
		" S75C Hardened	300	G	ACP300	60~85~120	0.06~0.09~0.13	0.05~0.09~0.13	0.05~0.10~0.14	0.06~0.11~0.16	0.07~0.12~0.18
		Low Alloy Steel 20crmo~42crmo/SCM,SNCM	180	L	ACP300	85~120~155	0.04~0.06~0.11	0.04~0.06~0.11	0.04~0.07~0.12	0.05~0.07~0.14	0.06~0.08~0.15
		" 20crmo~42crmo/SCM,SNCM Hardened	275	G	ACP300	70~105~140	0.05~0.09~0.13	0.05~0.09~0.13	0.05~0.10~0.14	0.06~0.11~0.16	0.07~0.12~0.18
		" 20crmo~42crmo/SCM,SNCM Hardened	300	G	ACP300	65~95~120	0.05~0.09~0.13	0.05~0.09~0.13	0.05~0.10~0.14	0.06~0.11~0.16	0.07~0.12~0.18
		" 20crmo~42crmo/SCM,SNCM Hardened	350	G	ACP300	55~75~95	0.05~0.09~0.13	0.05~0.09~0.13	0.05~0.10~0.14	0.06~0.11~0.16	0.07~0.12~0.18
		High Alloy Steel SKD,SKT,SKH	200	G	ACP300	85~115~140	0.07~0.11~0.19	0.07~0.11~0.19	0.07~0.12~0.20	0.08~0.13~0.22	0.09~0.15~0.25
		" SKD,SKT,SKH	325	G	ACP300	70~85~105	0.05~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
	M	Stainless Steel SUS403 and other's(Martensite/Ferrite)	200	G	ACP300	85~120~155	0.05~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
		" SUS403 and other's Martensitic (Hardened)	240	G	ACP300	80~105~130	0.05~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
		" SUS304, SUS316 Austenitic	180	G	ACP300	85~120~155	0.05~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
	K	Cast Iron		H	ACK300	105~140~170	0.08~0.17~0.25	0.09~0.19~0.28	0.10~0.20~0.30	0.11~0.22~0.34	0.12~0.24~0.38
		Ductile Cast Iron		H	ACK300	80~105~130	0.08~0.17~0.25	0.09~0.19~0.28	0.10~0.20~0.30	0.11~0.22~0.34	0.12~0.24~0.38
	S	Exotic Alloy (Heat Resistant Alloy, super Alloy, Ti Alloy, etc.)	200	G	ACP300	25~45~60	0.05~0.09~0.14	0.05~0.09~0.14	0.05~0.10~0.15	0.06~0.11~0.17	0.07~0.12~0.19
	N	Aluminium Alloy		G	DL1500	170~225~275	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20
		Copper Alloy		G	DL1500	155~200~240	0.05~0.10~0.16	0.05~0.10~0.16	0.05~0.11~0.17	0.06~0.12~0.19	0.07~0.13~0.20

It the first recommended insert grades for P and K , In such cases, Please use a cutting speed vc of 130% in the table above and a feed rate of 75% for the recommended cutting conditions.

◎ Recommended Cutting Conditions (4D~5D)

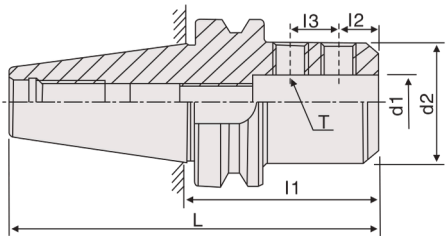
Minimum value~Recommended value~Maximum value

		Work Material	Hardness of Workpiece	Recommended Chipbreaker	Recommended Insert Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)				
			HB				φ 13.0~ φ 18.0	φ 18.5~ φ 29.0	φ 29.5~ φ 36.0	φ 37.0~ φ 55.0	φ 56.0~ φ 68.0
4D	P	Carbon Steel SS400	125	G	ACP300	105~155~205	0.04~0.06~0.09	0.04~0.06~0.09	0.04~0.06~0.09	0.04~0.07~0.09	0.05~0.08~0.10
		" S15C	125	L	ACP300	115~145~190	0.03~0.06~0.08	0.03~0.06~0.08	0.03~0.06~0.08	0.04~0.07~0.09	0.05~0.08~0.10
		" S45C Hardened	190	G	ACP300	85~130~170	0.07~0.10~0.16	0.07~0.10~0.16	0.07~0.11~0.17	0.08~0.13~0.20	0.09~0.14~0.21
		" S45C	250	G	ACP300	70~105~140	0.05~0.09~0.12	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
		" S75C	270	G	ACP300	85~115~140	0.07~0.10~0.14	0.07~0.10~0.14	0.07~0.11~0.16	0.08~0.13~0.18	0.09~0.14~0.19
		" S75C Hardened	300	G	ACP300	60~85~120	0.05~0.09~0.11	0.05~0.09~0.11	0.05~0.09~0.12	0.06~0.10~0.13	0.07~0.11~0.15
		Low Alloy Steel 20crmo~42crmo/SCM,SNCM	180	L	ACP300	85~120~155	0.04~0.06~0.09	0.04~0.06~0.09	0.04~0.06~0.10	0.05~0.07~0.11	0.06~0.08~0.13
		" 20crmo~42crmo/SCM,SNCM Hardened	275	G	ACP300	70~105~140	0.05~0.09~0.11	0.05~0.09~0.11	0.05~0.09~0.12	0.06~0.10~0.13	0.07~0.11~0.15
		" 20crmo~42crmo/SCM,SNCM Hardened	300	G	ACP300	65~95~120	0.05~0.09~0.11	0.05~0.09~0.11	0.05~0.09~0.12	0.06~0.10~0.13	0.07~0.11~0.15
		" 20crmo~42crmo/SCM,SNCM Hardened	350	G	ACP300	55~75~95	0.05~0.09~0.11	0.05~0.09~0.11	0.05~0.09~0.12	0.06~0.10~0.13	0.07~0.11~0.15
		High Alloy Steel SKD,SKT,SKH	200	G	ACP300	85~115~140	0.07~0.10~0.16	0.07~0.10~0.16	0.07~0.11~0.17	0.08~0.13~0.20	0.09~0.14~0.21
		" SKD,SKT,SKH	325	G	ACP300	70~85~105	0.05~0.09~0.12	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
	M	Stainless Steel SUS403 and other's(Martensite/Ferrite)	200	G	ACP300	85~120~155	0.05~0.09~0.12	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
		" SUS403 and other's Martensitic (Hardened)	240	G	ACP300	80~105~130	0.05~0.09~0.12	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
		" SUS304, SUS316 Austenitic	180	G	ACP300	85~120~155	0.05~0.09~0.12	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
	K	Cast Iron		H	ACK300	105~140~170	0.08~0.16~0.21	0.09~0.18~0.24	0.10~0.20~0.26	0.11~0.21~0.29	0.12~0.23~0.32
		Ductile Cast Iron		H	ACK300	80~105~130	0.08~0.16~0.21	0.09~0.18~0.24	0.10~0.20~0.26	0.11~0.21~0.29	0.12~0.23~0.32
	S	Exotic Alloy (Heat Resistant Alloy, super Alloy, Ti Alloy, etc.)	200	G	ACP300	25~45~60	0.06~0.10~0.13	0.05~0.09~0.12	0.05~0.09~0.13	0.06~0.10~0.14	0.07~0.11~0.16
	N	Aluminium Alloy		G	DL1500	170~225~275	0.04~0.09~0.14	0.04~0.09~0.14	0.05~0.10~0.15	0.05~0.11~0.17	0.06~0.12~0.19
		Copper Alloy		G	DL1500	155~200~240	0.04~0.09~0.14	0.04~0.09~0.14	0.05~0.10~0.15	0.05~0.11~0.17	0.06~0.12~0.19

It the first recommended insert grades for P and K , In such cases, Please use a cutting speed vc of 130% in the table above and a feed rate of 75% for the recommended cutting conditions.

		Work Material	Hardness of Workpiece	Recommended Chipbreaker	Recommended Insert Grade	Cutting Speed (m/min)	Feed Rate (mm/rev)				
			HB				φ 13.0~ φ 18.0	φ 18.5~ φ 29.0	φ 29.5~ φ 36.0	φ 37.0~ φ 55.0	φ 56.0~ φ 68.0
5D	P	Carbon Steel SS400	125	G	ACP300	105-155-205	0.04-0.05-0.08	0.04-0.05-0.08	0.04-0.05-0.08	0.04-0.06-0.08	
		" S15C	125	L	ACP300	115-145-190	0.03-0.05-0.07	0.03-0.05-0.07	0.03-0.05-0.07	0.04-0.06-0.08	
		" S45C Hardened	190	G	ACP300	85-130-170	0.06-0.09-0.14	0.06-0.09-0.14	0.07-0.10-0.16	0.08-0.11-0.18	
		" S45C	250	G	ACP300	70-105-140	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13	
		" S75C	270	G	ACP300	85-115-140	0.06-0.09-0.13	0.06-0.09-0.13	0.07-0.10-0.14	0.08-0.11-0.16	
		" S75C Hardened	300	G	ACP300	60-85-120	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.12	
		Low Alloy Steel 20crmo-42crmo/SCM,SNCM	180	L	ACP300	85-120-155	0.04-0.05-0.08	0.04-0.05-0.08	0.04-0.05-0.09	0.04-0.06-0.10	
		" 20crmo-42crmo/SCM,SNCM Hardened	275	G	ACP300	70-105-140	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.12	
		" 20crmo-42crmo/SCM,SNCM Hardened	300	G	ACP300	65-95-120	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.12	
		" 20crmo-42crmo/SCM,SNCM Hardened	350	G	ACP300	55-75-95	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.12	
	High Alloy Steel SKD,SKT,SKH	200	G	ACP300	85-115-140	0.06-0.09-0.14	0.06-0.09-0.14	0.07-0.10-0.16	0.08-0.11-0.18		
	" SKD,SKT,SKH	325	G	ACP300	70-85-105	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13		
	M	Stainless Steel SUS403 and other's(Martensite/Ferrite)	200	G	ACP300	85-120-155	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13	
		" SUS403 and other's Martensitic (Hardened)	240	G	ACP300	80-105-130	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13	
" SUS304, SUS316 Austenitic		180	G	ACP300	85-120-155	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13		
K	Cast Iron		H	ACK300	105-140-170	0.07-0.14-0.20	0.08-0.16-0.21	0.08-0.17-0.23	0.10-0.19-0.26		
	Ductile Cast Iron		H	ACK300	80-105-130	0.07-0.14-0.20	0.08-0.16-0.21	0.08-0.17-0.23	0.10-0.19-0.26		
S	Exotic Alloy (Heat Resistant Alloy, super Alloy, Ti Alloy, etc.)	200	G	ACP300	25-45-60	0.04-0.08-0.10	0.04-0.08-0.10	0.05-0.08-0.11	0.05-0.09-0.13		
N	Aluminium Alloy		G	DL1500	170-225-275	0.04-0.09-0.14	0.04-0.09-0.14	0.05-0.10-0.15	0.05-0.11-0.17		
	Copper Alloy		G	DL1500	155-200-240	0.04-0.09-0.14	0.04-0.09-0.14	0.05-0.10-0.15	0.05-0.11-0.17		

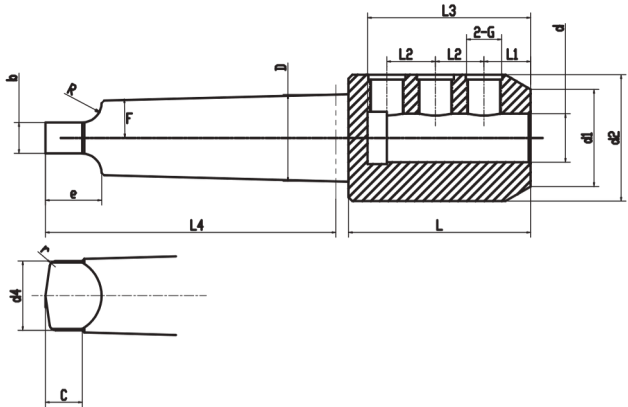
BT-SLA Weldon Tool Holder



Cat.No		d1	d2	l1	l2	l3	T
BT40	-SLA20-75	20	52	75	25	20	M16×2.0P
	-SLA25-90	25	65	90	30	22	
	-SLA32-90	32	72		30	22	
	-SLA40-100	40	90	100	35	25	
BT50	-SLA20-90	20	52	90	25	20	M16×2.0P
	-SLA25-105	25	60	105	30	22	M16×2.0P
	-SLA32-105	32	63	105	30	22	M16×2.0P
	-SLA40-105	40	78/90	105	35	25	M16×2.0P

※ Non-standard parts can be orde

Morse Tap Holder

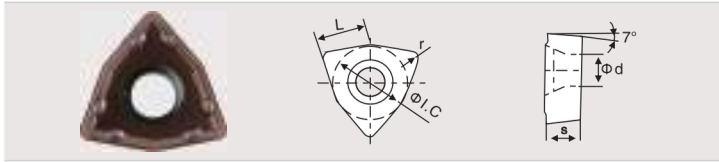


Specification/Item	Size	D	d	d1	d2	d4	G	F	b	C	e	L	L1	L2	L3	L4	R	r
MTA4-SLA25-80	31.27	31.27	25	38	55	24.5	M14	1:19.25	11.9	16	24	100	24	25	82	117.5	8	2.5
MTA4-SLA32-85	31.27	31.27	32	45	65	24.5	M14	1:19.25	11.9	16	24	105	24	28	86	117.5	8	2.5
MTA4-SLA40-95	31.27	31.27	40	55	75	24.5	M14	1:19.25	11.9	16	24	115	30	32	98	117.5	8	2.5
MTA5-SLA25-80	44.40	44.40	25	38	55	35.7	M14	1:19.0	15.9	19	29	100	24	25	82	149.5	12	3
MTA5-SLA32-85	44.40	44.40	32	45	65	35.7	M14	1:19.0	15.9	19	29	105	24	28	86	149.5	12	3
MTA5-SLA40-95	44.40	44.40	40	55	75	35.7	M14	1:19.0	15.9	19	29	115	30	32	98	149.5	12	3



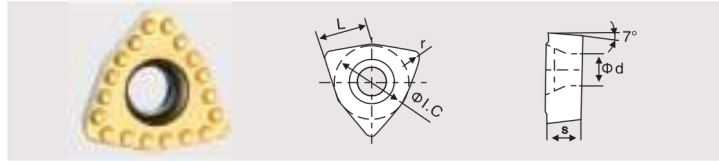
Indexable Insert Recommand

WC insert



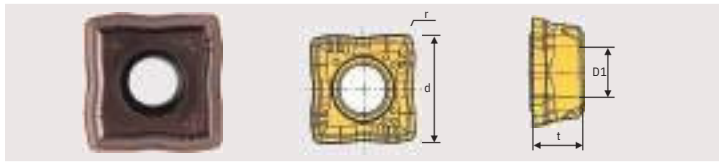
Specification/Item	Code	Size (mm)					U drill dia (mm)
		L	IC	s	d	r	
WCMT 030208	AZ33	3.8	5.56	2.38	2.8	0.8	15-20.5
FN WCMT 0		4.3	6.35	2.38	3.1	0.8	21-24.5
040208 FN	AZ33	5.4	7.94	3.18	3.5	0.8	25-30.5
WCMT 050308	0	6.5	9.525	3.97	3.7	0.8	31-41/63-80
FN WCMT	AZ33	8.7	12.7	4.76	4.3	1.2	42-62
06T308 FN	0						
WCMT 080412	AZ33						
FN	0						
	AZ33						
	0						

WC type DS inserts SS chip breaking



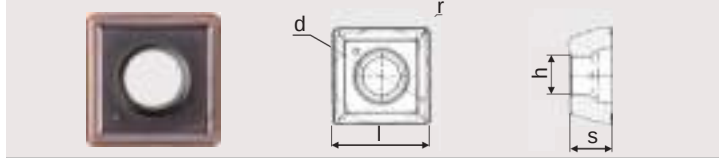
Specification/Item	Code	Size (mm)					U drill dia (mm)
		L	IC	s	d	r	
WCMT 030208	BK903	3.8	5.56	2.38	2.8	0.8	15-20.5
DS WCMT 0		4.3	6.35	2.38	3.1	0.8	21-24.5
040208 DS	BK903	5.4	7.94	3.18	3.5	0.8	25-30.5
WCMT 050308	0	6.5	9.525	3.97	3.7	0.8	31-41/63-80
DS WCMT	BK903	8.7	12.7	4.76	4.3	1.2	42-62
06T308 DS	0						
WCMT 080412	BK903						
DS	0						
	BK903						
	0						

SO insert



Specification/Item	Code	Size (mm)				U drill dia (mm)
		d	t	D1	r	
SOM 050204DP	AP903	4.9	2.38	2.25	0.4	16.5-19
T 060204DP	0	5.7	2.38	2.6	0.4	19.5-22
SOM 070306DP	AP903	6.8	2.6	2.6	0.6	22.5-26
T 08T306DP	0	7.9	3.97	2.85	0.6	26.5-31.5
SOM 09T308DP	AP903	9.2	3.97	3.8	0.8	32-36.5
T 11T308DP	0	11	3.97	3.8	0.8	37-43
SOM 130408DP	AP903	12.8	4.4	4.4	0.8	44-50
T 150510DP	0	15	4.8	5.4	1.0	
SOM	AP903					
T	0					
SOM	AP903					
T	0					
SOM	AP903					
T	0					
SOM	AP903					
T	0					

SP insert



Specification/Item	Code	Size (mm)				U drill dia (mm)
		d	s	h	r	
SPG 030104	AT903	3.5	1.4	1.9	0.4	10-12.5
T DG	0	4	1.8	2.05	0.2	13-15.5
SPG 04T102	AT903	5	2.38	2.3	0.4	16-21.5
T DG	0	6	2.38	2.61	0.4	22-28.5
SPG 050204	AT903	7.94	3.97	2.85	0.8	29-34.5
T DG	0	9.8	4.3	4.05	0.8	35-41.5
SPG 060204	AT903	11.5	4.8	4.45	0.8	42-50
T DG	0	14.3	5.2	5.75	1.2	
SPG 07T308	AT903					
T DG	0					
SPG 090408	AT903					
T DG	0					
SPG 110408	AT903					
T DG	0					
SPG 140512	AT903					
T DG	0					

Indexable Insert Recommand

SP/XO insert



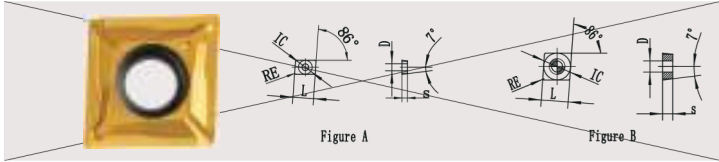
Specification/Item		Size (mm)				U drill dia (mm)
		d	r	s	di	
	SPM 040204 DP	4.7	0.4	2.4	2.4	12-14
	T 050204 DP	5.1	0.4	2.4	2.4	14-16
SPM 060205 DL	SPM 060205 DP	6.2	0.5	2.5	2.7	17-19
T 07T208 DL	T 07T208 DP	7.5	0.7	2.8	2.95	20-23
SPM 090308 DL	SPM 090308 DP	9.2	0.8	3.3	3.5	24-29
T 11T308 DL	T 11T308 DP	11	0.8	4	4.1	30-35
SPM 130410 DL	SPM 130410 DP	13	1	4.5	4.6	
T 15M510	T 15M510	15.2	1	4.98	5.65	
SPM DL	SPM DP					
T	T					
SPM	SPM					
T	T					
SPM	SPM					
T	T					
	SPM					

SP/XO insert



Specification/Item		Size (mm)				U drill dia (mm)
		d	r	s	di	
	XOM 040204 DP	4.9	0.4	2.42	2.35	12-14
	T 050204 DP	5.4	0.4	2.4	2.4	14-16
XOM 060204 DL	XOM 060204 DP	6.6	0.4	2.5	2.7	17-19
T 07T205 DL	T 07T205 DP	7.8	0.5	2.9	2.95	20-23
XOM 090305 DL	XOM 090305 DP	9.6	0.5	3.3	3.5	24-29
T 11T306 DL	T 11T306 DP	11.4	0.6	4	4.1	30-35
XOM 130406 DL	XOM 130406 DP	13.6	0.6	4.5	4.6	
T 15M508	T 15M508	15.9	0.8	5.04	5.65	
XOM DL	XOM DP					
T	T					
XOM	XOM					
T	T					
XOM	XOM					
T	T					
	XOM					

XC insert



Specification/Item		Size (mm)					Figure	TCAP DRILL SPECIFICATION
		IC	L	S	RE	D		
XCM 040104 TC		4.40	6.40	1.70	0.40	2.10	A	TCAP 08R
T 050204 TC		5.60	5.60	2.10	0.40	2.30	B	TCAP 12R
XCM 060204 TC		6.40	6.40	2.38	0.40	2.60	B	TCAP 14R
T 070304 TC		7.50	7.50	3.18	0.40	2.80	B	TCAP 16R
XCM 080304 TC		8.40	8.40	3.18	0.40	3.40	B	TCAP 20R
T 10T308 TC		10.50	10.50	3.97	0.60	4.20	B	TCAP 25R
XCM 130408 TC		13.40	13.40	4.76	0.80	5.20	B	TCAP 32R
T 170508 TC		17.40	17.40	5.56	0.80	5.20	B	
XCM								
T								
XCM								
T								
XCM								
T								
XCM								
T								
XCM								
T								

G INSERT



Specification/Item	Code	Size (mm)				U drill dia (mm)
		W1	s	RE	RE2	
WDXT042004-	AP30	4.20	2.00	1	0.4	15
G	0	5.00	2.50	0.4	0.4	16-18
WDXT052504-	AP30	6.00	3.00	0.4	0.6	19-22
G	0	7.50	3.50	0.6	0.6	23-28
WDXT063006-	AP30	9.60	4.60	0.6	0.8	29-35
G	0	12.40	5.60	0.8	1.2	/
WDXT073506-	AP30	15.20	6.60	1.2	1.2	/
G	0			1.2		
WDXT094008-	AP30					
G	0					
WDXT125012-	AP30					
G	0					
WDXT156012-	AP30					
G	0					

● Cutting speed(Vc)

$$V_c = \frac{D_c \times \pi \times n}{1000}$$

V_c (m/min):cutting speed
 D_c (mm):drill diameter
 n (rev/min):rotating speed

◆Example
spindle speed is 1600 rev/min. Drill diameter is 20 mm,thus cutting speed is:

$$V_c = \frac{D_c \times \pi \times n}{1000} = \frac{20 \times 3.14 \times 1600}{1000} = 100(m/min)$$

●Feed speed

$$V_f = f_r \times n(mm/min)$$

V_f (mm/min):feed speed
 f_r (mm/rev):feed rate per revolution
 n (rev/min):spindle speed

◆Example
Spindle speed is 1500 rev/min, feed rate per revolution is 0.1mm/rev, thus feed speed is:

$$V_f = f_r \times n = 0.1 \times 1500 = 150(mm/min)$$

● Machining time

$$T_c = \frac{L_d \times i}{n \times f}$$

T_c (min):machining time
 f_r (mm/rev):feed rate per revolution
 i :number of holes L_d (mm):drilling depth
 n (rev/min):spindle speed

◆Example
Drilling a hole with a diameter of 20 mm and a depth of 40 mm,cutting speed is 100m/min and feed rate per revolution is 0.1mm/rev. Calculate the drilling time.

$$n = \frac{V_c \times 1000}{D_c \times \pi} = \frac{100 \times 1000}{20 \times 3.14} = 1600(rev/min)$$

$$T_c = \frac{L_d \times i}{n \times f_r} = \frac{40 \times 1}{1600 \times 0.1} = 0.25(min)$$

● Metal removal rate

$$Q = \frac{V_f \times \pi \times D_c^2}{4 \times 1000}$$

Q (cm³/min):metal removal rate
 D_c (mm):drill diameter
 V_f (mm/min):feed speed

◆Example
Drill diameter is 20mm, feed speed is 160mm/rev, thus metal removal rate is:

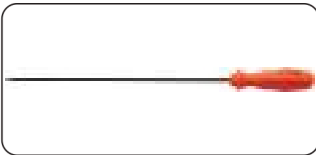
$$Q = \frac{V_f \times \pi \times D_c^2}{4 \times 1000} = \frac{160 \times 3.14 \times 20^2}{4 \times 1000} = 50.24(cm^3/min)$$



Yellow box



White box



Sem drill wrench



T6/T7/T8/T15
WRENCH(wiha)



T6/T7/T8/T15
WRENCH(black)



PLUS T6/T7/T8/T15
WRENCH(wiha)PLUS



side fastening screw for chuck(1-6#)



cutter block screw(1-6#)



end cap



roug boring head fitting-tightening,
screws for rough boring head



side fastening screw
screw for finish boring head



screw



Sem drill Screw

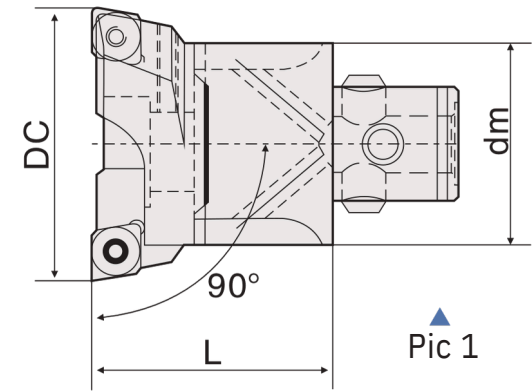
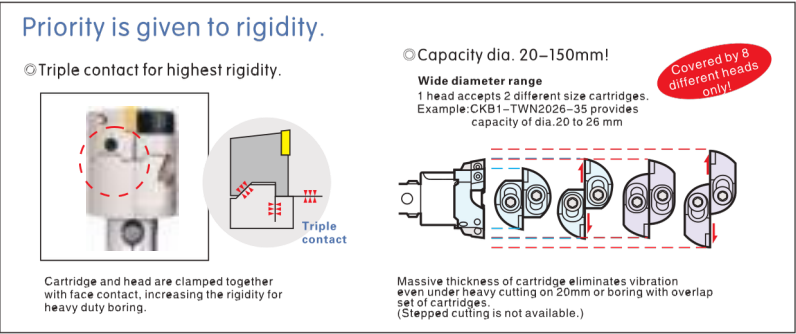
TWN Twin-Cutter Boring Head

Heavy Cutting Rough Boring Head

© Diameter: 25- 90

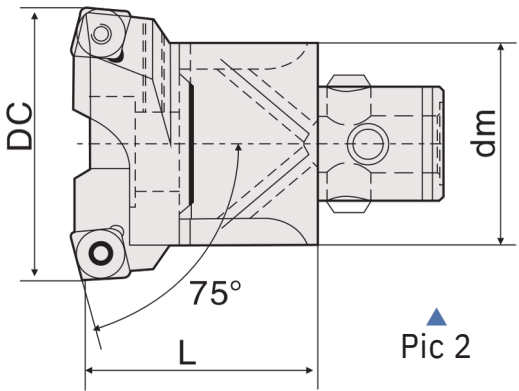


- ◎Boring Range $\phi 20\text{--}\phi 150$
- ◎Pay attention to the rigidity of rough processing
- ◎The boring cutter and the boring head are tightened with three faces to enhance the rigidity
- ◎boring cutter contour error $\leq 0.02\text{mm}$



Blind hole

Pic 1



Through hole
Made to order item

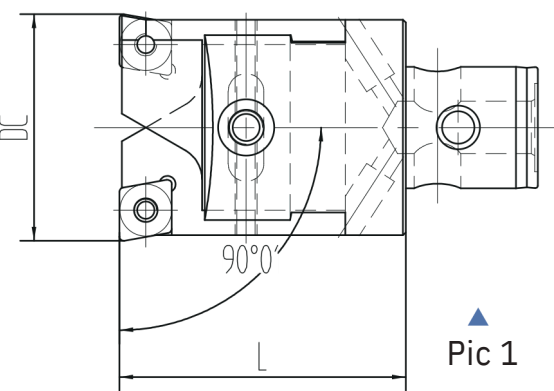
Pic 2

◎ Rough boring head for blind hole-90°

Specification	Dc	dm	L	Insert	Screw	Wrench	Cutter block	Screw	Cutter block screw	Side trimmer screw	kg	Pic
CKB1–TWN2026–35	20–26	19	35	CC..0602..	M2.5×6.5	T8	TW20–26M	M2.5*6	M4-0.7*16	M3*5	0.07	1
CKB2–TWN2533–38	25–33	24	38	CC..0602..	M2.5×6.5	T8	TW25–33M	M2.5*6	M5-0.8*18	M3*6	0.14	
CKB3–TWN3242–43	32–42	31	43	CC..09T3..	M4×10	T15	TW32–42M	M4*10	M6-1.0*20	M3*8	0.23	
CKB4–TWN4154–50	41–54	39	50	CC..09T3..	M4×10	T15	TW41–54M	M4*10	M8-1.25*25	M3*10	0.43	
CKB5–TWN5372–60	53–72	49	60	CC..1204..	M5×13	T20	TW53–72M	M5*12	M10-1.5*35	M4*12	0.82	
CKB6–TWN6890–75	68–90	63	75	CC..1204..	M5×13	T20	TW68–90M	M5*12	M10-1.5*35	M4*16	1.75	
CKB6–TWN89120–75	89–120	63	75	CC..1204..	M5×13	T20	TW89–120M	M5*12	M10-1.5*35	M4*16	2.25	
CKB6–TWN115150–75	115–150	63	75	CC..1204..	M5×13	T20	TW115–150M	M5*12	M10-1.5*35	M4*20	2.35	

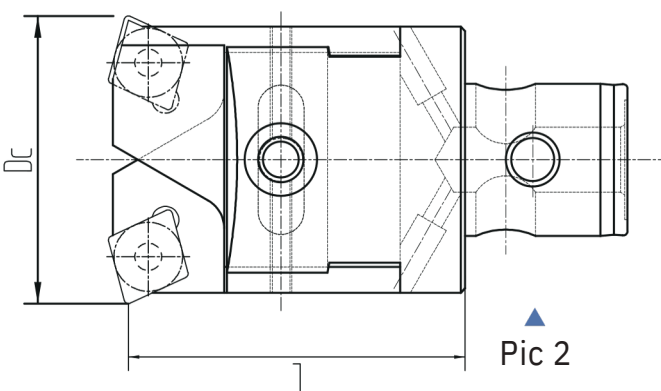
◎ Rough boring head for through holes-75°

Specification	Dc	dm	L	Insert	Screw	Wrench	Cutter block	Screw	Cutter block screw	Side trimmer screw	kg	Pic
CKB5-TWN5372-60-T	53–7	49	60	CC..1204..	M5×13	T20	TW53–72M	M5*1	M10-1.5*35	M4*1	0.82	2
CKB6-TWN6890-75-T	68–90	63	75	CC..1204..	M5×13	T20	TW68–90M	2	M10-1.5*35	2	1.75	
CKB6-TWN89120-75-T	89–120	63	75	CC..1204..	M5×13	T20	TW89–120M	M5*1	M10-1.5*35	M4*1	2.25	
CKB6-TWN115150-75-	115–150	63	75	CC..1204..	M5×13	T20	TW115–150M	2	M10-1.5*35	6	2.35	
T								M5*1		M4*1		



Blind hole

Pic 1



Through hole

Pic 2

◎ Rough boring head for blind hole-90°

Specification	Dc	dm	L	Insert	Screw	Wrench	Cutter block screw	Wrench	Side trimmer screw	Wrench	kg	Pic
CKB2-TWN2533-38-	25-33	2	3	CC..0602..	M2.5*6	T8	M5-0.8*18	L4	M3*6	L1.5	0.14	1
A CKB3-TWN3242-	32-42	4	8	CC..09T3..	M4*10	T15	M6-1.0*20	L5	M3*8	L1.5	0.23	
43-A CKB4-	41-54	3	4	CC..09T3..	M4*10	T15	M8-1.25*25	L6	M3*10	L1.5	0.43	
TWN4154-50-A	53-72	1	5	CC..1204..	M5*12	T20	M10-1.5*35	L8	M4*12	L2	0.82	
CKB5-TWN5372-60-	68-90	3	5	CC..1204..	M5*12	T20	M10-1.5*35	L8	M4*16	L2	1.75	
A CKB6-TWN6890-		9	2									
75-A		4	6									
		9	6									

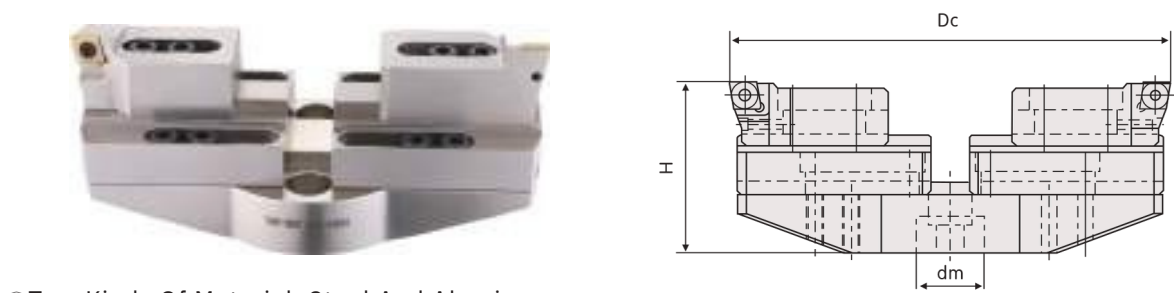
◎ Rough boring head for through holes-75°

Specification	Dc	dm	L	Insert	Screw	Wrench	Cutter block screw	Wrench	Side trimmer screw	Wrench	kg	Pic
CKB2-TWN2533-38-A-75°	25-33	2	3	CC..0602..	M2.5*6	T8	M5-0.8*18	L4	M3*6	L1.5	0.14	2
CKB3-TWN3242-43-A-75°	32-42	4	5	CC..09T3..	M4*10	T15	M6-1.0*20	L5	M3*8	L1.5	0.23	
CKB4-TWN4154-50-A-75°	41-54	3	4	CC..09T3..	M4*10	T15	M8-1.25*25	L6	M3*10	L1.5	0.43	
CKB5-TWN5372-60-A-75°	53-72	1	1	CC..1204..	M5*12	T20	M10-1.5*35	L8	M4*12	L2	0.82	
CKB6-TWN6890-75-A-75°	68-90	3	4	CC..1204..	M5*12	T20	M10-1.5*35	L8	M4*16	L2	1.75	
		9	8									
		4	6									
		9	1									
		6	7									
		3	0									

TWN Large Diameter Boring Head

Technical Informations

© Diameter: 151- 750



©Two Kinds Of Material, Steel And Aluminum.

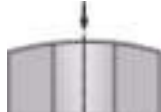
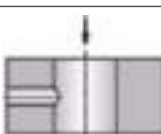
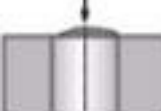
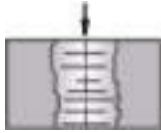
Specification	Dc	dm	L	Insert	Screw	Wrench	Slide fastening screws	boring cutter screws	slide screws	Boring cutter screws	side kg
RDH-D151-211-	151-	3	8	CC..1204..	M5*1	T2	M8*2	M8*2	M6*2	M6*20	4.95
80L RDH-D210-	211	2	0	CC..1204..	3	0	5	6	0	M6*25	5.85
290-80L RDH-	210-	3	8	CC..1204..	M5*1	T2	M8*2	M8*2	M6*2	M6*25	6.81
D290-370-80L	290	2	0	CC..1204..	3	0	5	6	5	M6*25	7.80
RDH-D370-450-	290-	3	8	CC..1204..	M5*1	T2	M8*2	M8*2	M6*2	M6*25	8.75
80L RDH-D450-	370	2	0	CC..1204..	3	0	5	6	5	M6*25	9.85
550-80L RDH-	370-	3	8	CC..1204..	M5*1	T2	M8*2	M8*2	M6*2		10.85
D550-650-80L	450	2	0		3	0	5	6	5		
RDH-D650-750-	450-	3	8		M5*1	T2	M8*2	M8*2	M6*2		
80L	550	2	0		3	0	5	6	5		
	550-	3	8		M5*1	T2	M8*2	M8*2	M6*2		
	650	2	0		3	0	5	6	5		
	650-	3	8		M5*1	T2	M8*2	M8*2	M6*2		
	750	2	0		3	0	5	6	5		

Pin Turning Boring Head-for Roughing Boring

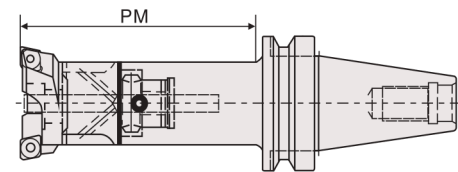
© Diameter: 13- 128



Specification/Item	Range (excircle)		depth (L)	length (H)	Range (Inner)	ds	Head Model
CKB5-TW2230-56CK2	TWN2-	22-30	5	79	80-88	2	CKB2-TWN2533-
CKB5-TW3240-56CK2	1	32-40	6	89	90-98	8	38 CKB2-
CKB5-TW4555-67CK3	TWN2-	45-55	5	118	119-129	2	TWN2533-38
CKB6-TW5565-67CK3	1	55-65	6	128	129-139	8	CKB3-EWN3242-
CKB6-TW6575-67CK3	TWN3-	65-75	6	138	139-149	2	43 CKB3-
CKB6-TW87100-	1	89-100	7	179	182-195	8	EWN3242-43
77CK4 CKB6-	TWN3-	114-127	6	206	209-222	3	CKB3-EWN3242-
TW114127-77CK4	1		7			6	43 CKB4-
	TWN3-		6			3	EWN4154-50
	1		7			6	CKB4-EWN4154-
	TWN4-		7			3	50
	1		7			6	
	TWN4-		7			3	
	1		7			6	

	Starting on uneven surfaces (cast surfaces) subject to the starting angle, the feed must be reduced when starting the bore. ● Rule of thumb: 3°= 30%; 10°= 40%; 25°= 60% ● use tough insert ● use stable corner radius
	Angled bore exit ● from wear cut is interrupted reduce feed rate up to 50% ● use tough insert ● use stable corner radius
	Starting on cambered surfaces ● no problems ● reduce feed rate if necessary
	Roughing through a cross bore ● reduce feed rate 50% if necessary ● watch for chip jamming around tool ● use tough insert ● use stable corner radius
	Starting on an edge ● reduce feed rate by 50% ● use tough insert ● use stable corner radius
	Starting on a welded seam ● reduce feed rate ● use max. 3×D tools
	Roughing through stacked plates ● use holder with 80° approach angle ● good workpiece clamping required ● max. gap = 1 mm
Problems Possible causes solutions	
Long chips ● not optimum geometry → select correct cutting depth → select correct cutting values	
	Bad surface finish feed rate too high improve cutting parameters: increase cutting speed, reduce feed ● long chips
	Vibrations ● feed rate too high ● cutting speed too high ● geometry too obtuse ● check axial / radial setting ● check tool assembly ● if required, use a damping element adaptor 

TWN Rough Boring Cutting Conditions–BT40/BT50



◎BT40 MAS 403 BT (ISO40)

Specification	Material	PM	Nose radius	Vc(m/min)	Speed (mm/φ)		Feed(mm/rev)	
					Recommend	MAX	Recommend	MAX
CKB1–TWN2026–35	P	73	0.4	110	1.7	2.0	0.16	0.20
	M			95	1.4	2.0	0.13	0.20
	K			60	1.4	2.0	0.14	0.20
	S			80	1.7	2.0	0.13	0.20
				130	2.0	2.5	0.20	0.25
CKB2–TWN2533–38	P	89	0.4	110	2.2	3.0	0.18	0.25
	M			95	1.8	3.0	0.16	0.25
	K			60	2.0	3.0	0.18	0.25
	S			80	2.2	3.0	0.16	0.25
				130	3.0	4.0	0.25	0.30
CKB3–TWN3242–43	P	105	0.8	150	3.2	4.0	0.22	0.30
	M			130	2.7	3.5	0.18	0.28
	K			70	2.7	3.5	0.22	0.30
	S			80	3.2	4.0	0.18	0.25
				130	3.5	5.0	0.25	0.30
CKB4–TWN4154–50	P	113	0.8	150	3.5	4.5	0.22	0.32
	M			130	3.5	4.5	0.20	0.30
	K			70	3.2	4.3	0.20	0.30
	S			80	3.5	5.5	0.20	0.30
				130	4.5	6.5	0.28	0.35
CKB5–TWN5372–60	P	122	0.8	150	5.3	6.5	0.25	0.35
	M			130	5.3	6.5	0.20	0.28
	K			70	4.5	5.5	0.20	0.28
	S			80	6.3	7.5	0.25	0.32
				130	7.5	9.0	0.30	0.38
CKB6–TWN6890–75	P	138	0.8	150	7.0	9.0	0.25	0.35
CKB6–TWN89120–75	M			130	6.3	9.0	0.22	0.30
CKB6–TWN115150–75	K			70	6.3	8.0	0.22	0.30
	S			80	7.2	9.0	0.25	0.32
				130	8.0	10.0	0.30	0.38

◎BT50 MAS 403 BT (ISO50)

Specification	Material	PM	Nose radius	Vc(m/min)	Speed (mm/φ)		Feed(mm/rev)	
					Recommend	MAX	Recommend	MAX
CKB1–TWN2026–35	P	81	0.4	110	1.7	2.0	0.16	0.20
	M			95	1.4	2.0	0.13	0.20
	K			60	1.4	2.0	0.14	0.20
	S			80	1.7	2.0	0.13	0.20
				130	2.0	2.5	0.20	0.25
CKB2–TWN2533–38	P	98	0.4	120	2.2	3.2	0.18	0.25
	M			110	1.8	3.2	0.16	0.25
	K			70	2.0	3.2	0.18	0.25
	S			85	2.2	3.2	0.16	0.25
				130	3.0	4.5	0.25	0.30
CKB3–TWN3242–43	P	125	0.8	170	3.2	4.5	0.22	0.30
	M			150	2.7	4.0	0.18	0.28
	K			85	2.7	3.5	0.22	0.30
	S			85	3.2	4.5	0.18	0.25
				130	3.5	5.0	0.25	0.30
CKB4–TWN4154–50	P	130	0.8	170	4.0	4.5	0.22	0.32
	M			150	3.5	4.5	0.20	0.30
	K			85	3.5	4.5	0.20	0.30
	S			85	3.5	5.5	0.20	0.30
				150	4.5	6.5	0.28	0.35
CKB5–TWN5372–60	P	140	0.8	180	6.3	7.2	0.25	0.38
	M			150	6.3	7.2	0.20	0.32
	K			100	5.3	6.3	0.20	0.32
	S			85	7.2	9.0	0.25	0.35
				170	8.0	11.0	0.30	0.40
CKB6–TWN6890–75	P	150	0.8	180	8.0	10.0	0.25	0.38
CKB6–TWN89120–75	M			150	7.0	10.0	0.25	0.32
CKB6–TWN115150–75	K			100	6.5	8.0	0.25	0.32
	S			85	8.0	10.0	0.25	0.35
				170	9.0	11.0	0.30	0.40

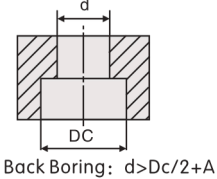
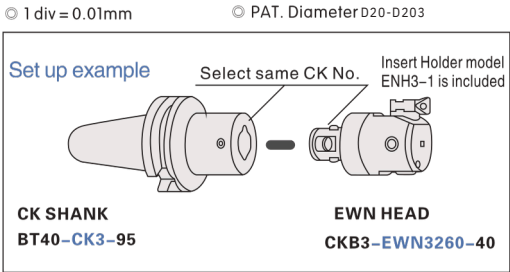
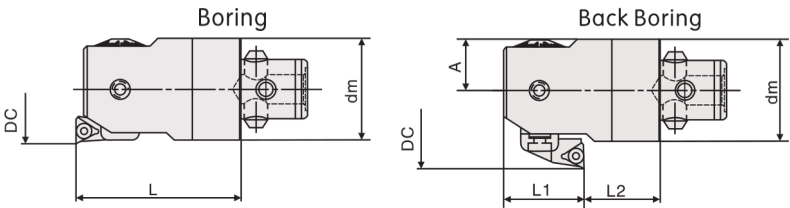


Reliable scale screw, 1 div=0.01mm on diameter and vernier scale.
Stable and higher precision achieved by pre-balanced design.
Back boring is available as standard feature for greater versatility.

PAT. Diameter $\phi 20-\phi 203$

Coolant-Through hole

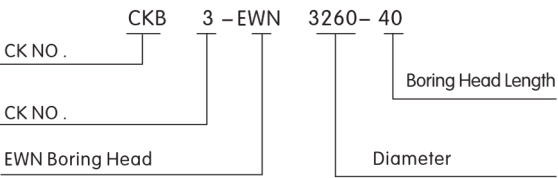
Vc max. 1200m/min



1 div=0.01mm/ ϕ

Specification	Boring				Counter boring				Insert Size	Clamp screw	wrench	
	Dc	dm	L	Cutter block	Dc	L1	L2	A				
CKB1-EWN2036-32.5	20-26	19	32.5	ENH1-1	30-31	20	10	10	TP..0802..	M2.2*5	T7	0.09
	25-31			ENH1-2								
	30-36			ENH1-3								
CKB2-EWN2547-35.5	25-33	24	35.5	ENH2-1	38-41	22	10	12.5	TP..0802..	M2.2*5	T7	0.15
	32-40			ENH2-2								
	39-47			ENH2-3								
CKB3-EWN3260-40	32-42	31	40	ENH3-1	48-52	25	9	16	TP..1103..	M3*7	T8	0.25
	41-51			ENH3-2								
	50-60			ENH3-3								
CKB4-EWN4174-47	41-54	39	47	ENH4-1	59-67	30	13	20	TC..1102..	M2.5*6	T8	0.43
	53-66			ENH4-2								
	61-74			ENH4-3								
CKB5-EWN5395-57	53-70	49	57	ENH5-1	66-86	34	19	25.5	TP..1103..	M3*7	T8	1.25
	68-85			ENH5-2								
	78-95			ENH5-3								
CKB6-EWN68150-71	68-100	63	71	ENH6-1	91-123	45	23	32.5	TC..1102..	M2.5*6	T8	1.78
	93-125			ENH6-2								
	125-150			ENH6-3								
CKB6-EWN100203-71	100-153	63	71	ENH6-1	124-180	45	23	45.5	TP..1103..	M3*7	T8	2.53
	125-178			ENH6-2								
	150-203			ENH6-3								

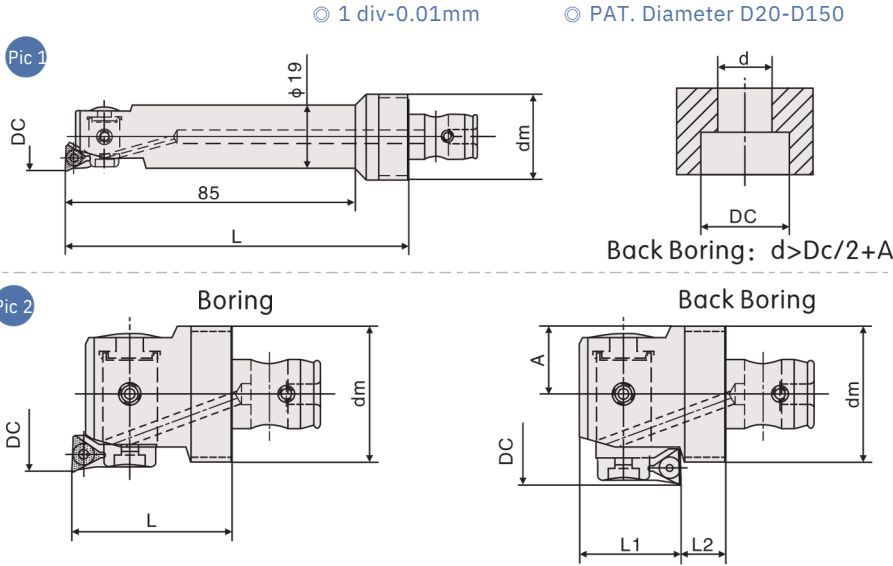
Part Number Structure of Finish Boring Head



- Insert Holder model ENH-1 is included. ENH-2 and ENH-3 are optional accessories.
- Rotation becomes reverse when back-boring.
- Insert must be ordered separately.
- Insert



1 div=0.01mm/ ϕ



Specification	Pic	Boring				Counter boring				Insert Size	Clamp screw	wrench	
		Dc	dm	L	Cutter block	Dc	L1	L2	A				
21CD25-EWN2036-85	1	20-26	25	101	ENH1-1	30-31	20	10	10	TP..0802..	M2 x 5	T6	0.13
		25-31			ENH1-2								
		30-36			ENH1-3								
21CD25-EWN2647-35.5		26-33	25	35.5	ENH2-1	36-40	22	10	12.5	TP..0802..	M2 x 5	T6	0.16
		32-40			ENH2-2								
		39-47			ENH2-3								
21CD32-EWN3360-40	2	33-42	32	40	ENH3-1	46-51	25	9	16	TP..0902..	M2.5 x 6	T8	0.27
		41-51			ENH3-2								
		50-60			ENH3-3								
21CD40-EWN4174-47		41-54	40	47	ENH4-1	53-63	30	13	20	TC..1102..	M2.5 x 6	T8	0.47
		50-63			ENH4-2								
		61-74			ENH4-3								
21CD50-EWN5395-57		53-70	50	57	ENH5-1	62-70	34	19	25.5	TP..1103..	M3 x 8	T10	1.32
		65-82			ENH5-2								
		78-95			ENH5-3								
21CD63-EWN68150-71	2	68-100	63	71	ENH6-1	80-100	45	23	32.5	TC..1102..	M2.5 x 6	T8	1.78
		94-126			ENH6-2								
		118-150			ENH6-3								



CAUTION

The max. allowable spindle speed for the EWN Head is 1200m/min. However, since the rigidity of machine spindle and workpiece, the length of boring tool and usage of Extension and Reduction adapters influence the condition, please increase the speed gradually to determine the best cutting condition.

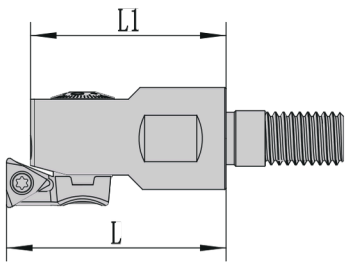
Insert Holder Pat.(Option)



Cutter block	Figure	Head Model	Diameter ϕ
ENH1-1		CKB1-EWN2036-32.5	20-26
ENH1-2			25-31
ENH1-3			30-36
ENH2-1		CKB2-EWN2547-35.5	25-33
ENH2-2			32-40
ENH2-3			39-47
ENH3-1		CKB3-EWN3260-40	32-42
ENH3-2			41-51
ENH3-3			50-60
ENH4-1		CKB4-EWN4174-47	41-54
ENH4-2			50-66
ENH4-3			61-74
ENH5-1		CKB5-EWN5395-57	53-70
ENH5-2			65-85
ENH5-3			78-95
ENH6-1		CKB6-EWN68150-71	68-100
ENH6-2			93-125
ENH6-3			125-150
ENH6-1		CKB6-EWN100203-71	100-153
ENH6-2			125-178
ENH6-3			150-203

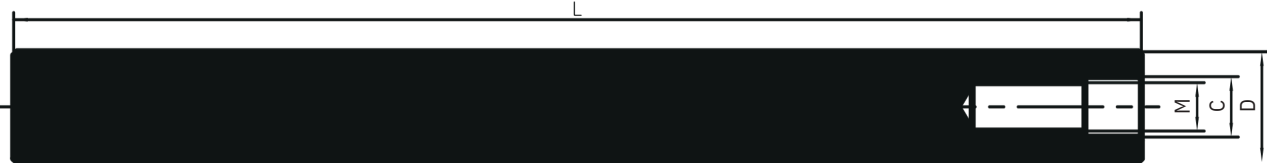


High Accuracy Precision Boring Head



Specification	L1	L	Boring Range	Applicable Insert
M8-EWN1626-32.5	36	37.5	16-21/21-26	TPGT080
M10-EWN2036-	29.5	32.5	20-26/25-31/30-36	2
32.5 M12-	32.5	35.5	25-33/32-40/39-47	TPGT080
EWN2547-35.5	35	40	32-42/41-51/50-60	2
M16-EWN3260-40				TPGT080
				2
				TPGT080
				2

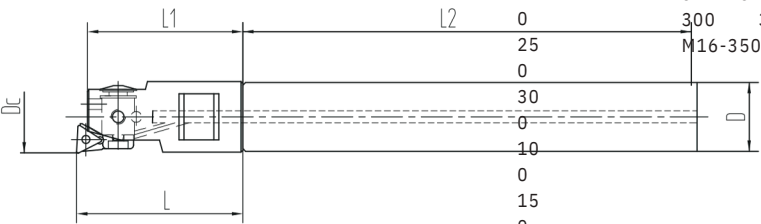
Carbide boring head holder



Holder Sizes	D	M	Total length
14-M8-100	14	M8	10
14-M8-150	14	M8	0
14-M8-200	14	M8	15
15-M8-100	15	M8	0
15-M8-150	15	M8	20
15-M8-200	15	M8	0
15.6-M8-100	15.6	M8	10
15.6-M8-150	15.6	M8	0
15.6-M8-200	15.6	M8	15
15.6-M8-250	15.6	M8	0
16-M8-100	16	M8	20
16-M8-150	16	M8	0
16-M8-200	16	M8	10
16-M8-250	16	M8	0
16-M8-300	16	M8	15
19-M10-100	19	M10	0
19-M10-150	19	M10	20
19-M10-200	19	M10	0
19-M10-250	19	M10	25

Holder Sizes	D	M	Total length
20-M10-	20	M1	10
100 20-	20	0	0
M10-150	20	M1	15
20-M10-	20	0	0
200 20-	20	M1	20
M10-250	24	0	0
20-M10-	24	M1	25
300 24-	24	0	0
M12-150	24	M1	30
24-M12-	25	0	0
200 24-	25	M1	15
M12-250	25	2	0
24-M12-	25	M1	20
300 25-	32	2	0
M12-150	32	M1	25
25-M12-	32	2	0
200 25-	32	M1	30
M12-250	32	2	0

Carbide boring head holder

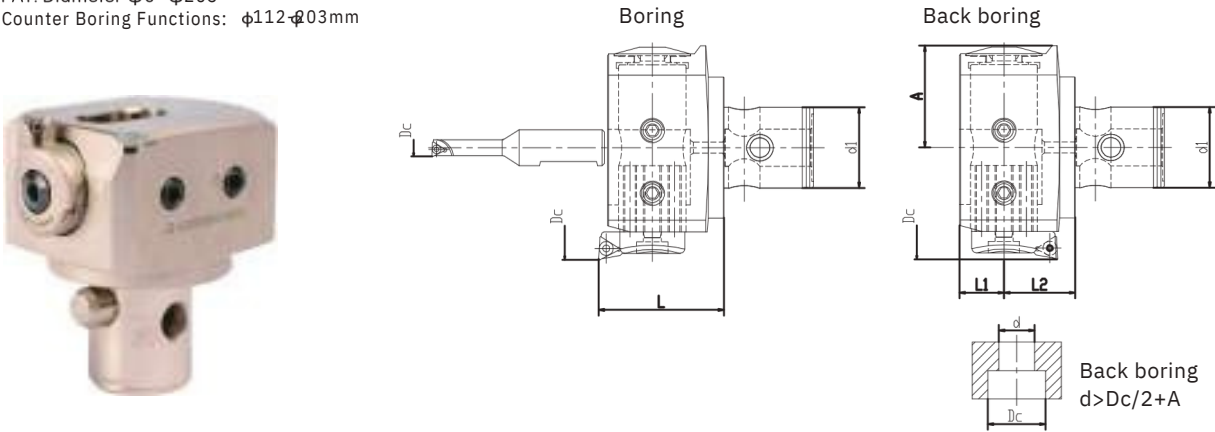


Specification	DC	L1	L2	L	M1	D ³⁵
ST15W-EWN1621-	16-	25	3	15	3	1
195TP08 ST16W-	21	0	6	7	8	5
EWN1822-195TP08	18-	3	15	3	1	1
	22	6	7	8	6	6

S	O
W	C
S	P
P	D
L	W
D	X
Chuck	
Carbide Inserts	
Rough Boring Head	
Finish Boring Head	
Chuck	
Accessories	
Chamfering Tools	
Slot Milling Cutters	

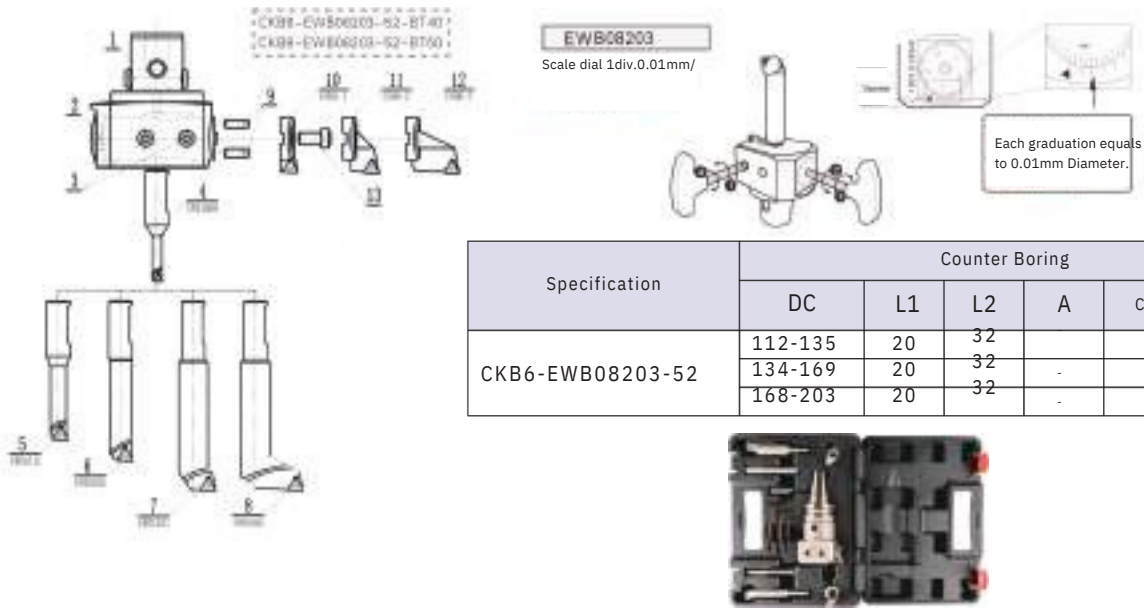
High Accuracy Precision Boring Head (2084)

- 1 div = 0.01mm
- PAT. Diameter $\phi 8-\phi 203$
- Counter Boring Functions: $\phi 112-\phi 203\text{mm}$



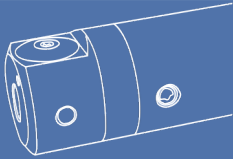
Specification	Boring				Depth	Insert	Clamp screw	wrench	
	DC	d1	L	Cutter Block					
CKB6-EWB08203-52	08-43	63	52	YBJ1608	32	TB..0601	M2.2*5	T7	0.11
	12-47			YBJ1612	50	TP..0902	M2.5*6	T8	0.12
	16-51			YBJ1616	65				0.18
	31-66			YBJ1631	90	TP..1103	M3*7		0.47
	65-100			YBJ1665	90				0.65
	100-135			ENH6-1	-				-
	134-169			ENH6-2F	-				-
	168-203			ENH6-3F	-	-			

Part Number Structure of Finish Boring Head

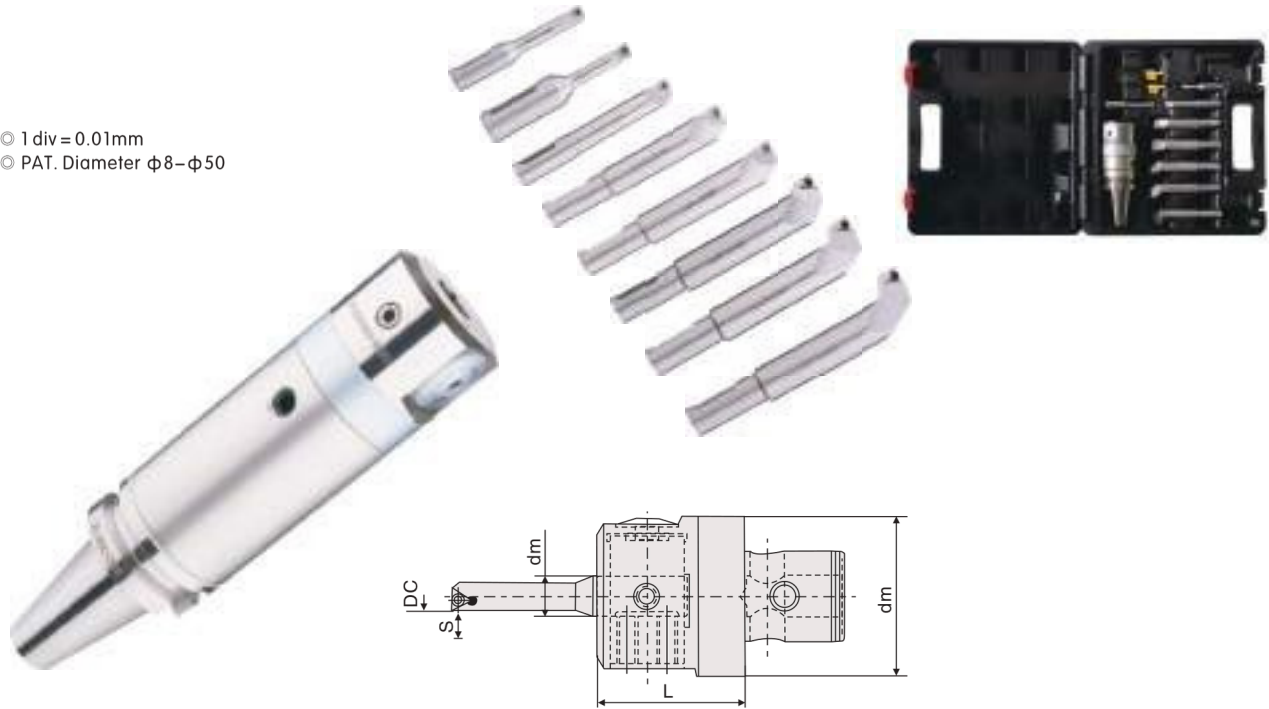




EWB Prescison Boring Heads

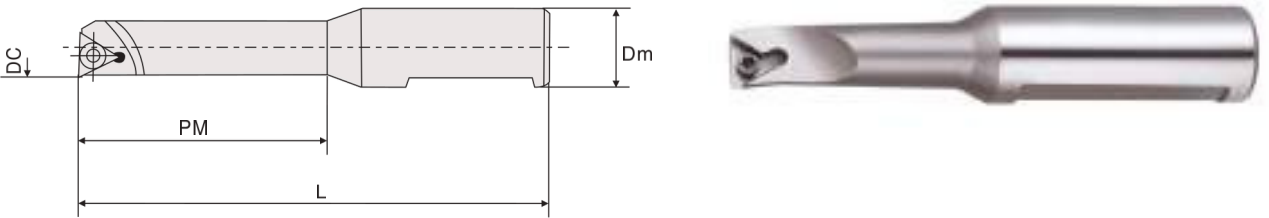


- 1 div = 0.01mm
- PAT. Diameter $\phi 8-\phi 50$



Specification	Boring range	Modular Holder	Micro distance	L	dm	 kg
CKB6-EWB0850-65	08-50	YBJ16	3.5	65	63	1.1

EWB Boring Bar System

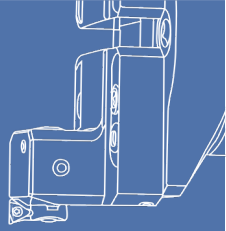


Specification	Size				Insert	Clamp screw	wrench	 kg
	Dc	dm	PM	L				
EWB1608-32	08-15	16	32	80	TB..0601	M2.2*5	T7	0.11
EWB1612-50	12-19		50	98	TP..0902	M2.5*6	T8	0.12
EWB1616-65	16-23		65	115				0.18
EWB1620-85	20-27		85	135	TP..1103	M3*7	T8	0.29
EWB1625-90	25-32		90	145				0.37
EWB1631-90	31-38		90	145				0.47
EWB1637-90	37-44		90	145				0.58
EWB1643-90	43-50		90	145				0.65

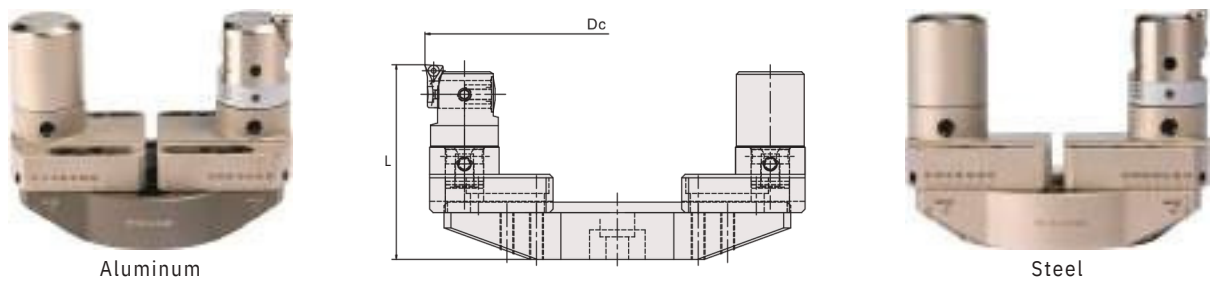
S	○
W	○
C	○
S	○
P	○
P	○
D	○
L	○
W	○
D	○
X	○
Chuck	○
Carbide Inserts	○
Rough Boring Head	○
Finish Boring Head	○
Chuck	○
Accessories	○
Chamfering Tools	○
Slot Milling Cutters	○



EWN Large Diameter Boring Head



◎ PAT. Diameter $\phi 151\text{--}\phi 750$ ◎ 1 div = 0.01mm

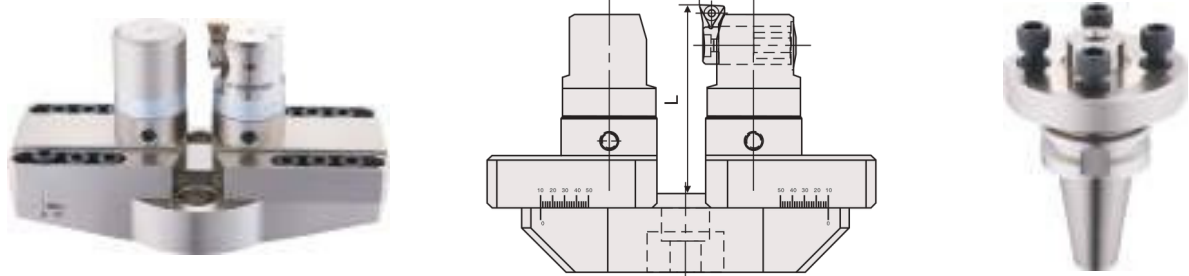


◎ Two Kinds Of Material, Steel And Aluminum.

Specification	Dc	L	Insert	Screw	Wrench	Slide fastening screws	Wrench	Slider retaining adjustment screws	Wrench	kg
CDH-D151-211-	151-	8	TP1103..	M3*	M3*	M8*2	L6	M6*2	L2.5	4.75
84L CDH-D210-	211	4	TP1103..	7	7	5	L6	0	L2.5	5.15
290-84L CDH-	210-	8	TP1103..	M3*	M3*	M8*2	L6	M6*2	L2.5	6.12
D290-370-84L	290	4	TP1103..	7	7	5	L6	5	L2.5	7.05
CDH-D370-450-	290-	8	TP1103..	M3*	M3*	M8*2	L6	M6*2	L2.5	8.00
84L CDH-D450-	370	4	TP1103..	7	7	5	L6	5	L2.5	9.05
550-84L CDH-	370-	8	TP1103..	M3*	M3*	M8*2	L6	M6*2	L2.5	10.05
D550-650-84L	450	4		7	7	5		5		
CDH-D650-750-	450-	8		M3*	M3*	M8*2		M6*2		
84L	550	4		7	7	5		5		
	550-	8		M3*	M3*	M8*2		M6*2		
	650	4		7	7	5		5		
	650-	8		M3*	M3*	M8*2		M6*2		
	750	4		7	7	5		5		

◎ Pin Turning Boring Head – For Finishing Boring

◎ PAT. Diameter $\phi 8\text{--}\phi 120$ ◎ 1 div = 0.01mm



◎ Two Kinds Of Material, Steel And Aluminum.

Specification	Dc	L	Insert	Clamp screw	wrench	kg
CDH2-D8-55-78L	8-55	78	TP1103...	M3X7	T8	2.9
CDH3-D30-120-78L	30-120	78	TP1103...	M3X7	T8	3.4



S

O

W

C

S

P

D

L

W

D

X

Chuck

Carbide inserts

Rough Boring Head

Finish Boring Head

Chuck

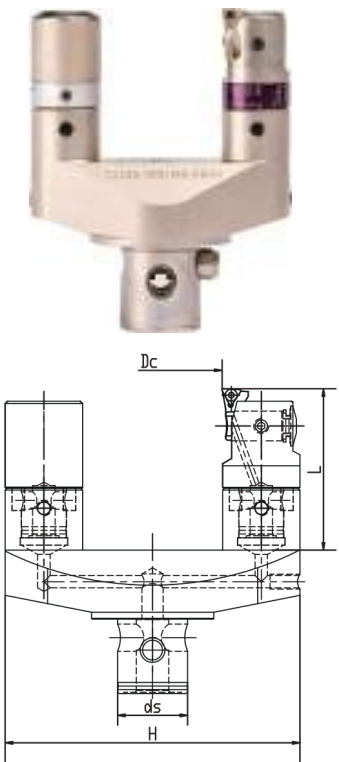
Accessories

Chamfering Tools

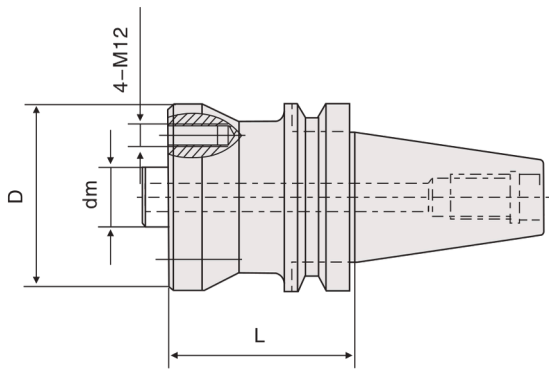
Slot Milling Cutters

Pin Turning Boring Head-for Finishing Boring

Specification/Item	Boring range			Inner hole range ϕs		depth (L)	length (H)	Head Model
CKB5-EW0830-52CK2	8-30	ENH2-1	22-30	80-88	28	52	79	CKB2-EWN2547-35.5
		ENH2-2	15-23	87-95				
		ENH2-3	8-16	94-102				
CKB5-EW1840-52CK2	18-40	ENH2-1	32-40	90-98	28	52	89	CKB2-EWN2547-35.5
		ENH2-2	25-33	97-105				
		ENH2-3	18-26	104-112				
CKB5-EW2855-63CK3	28-55	ENH2-1	46-55	119-129	28	63	118	CKB3-EWN3260-40
		ENH2-2	36-46	128-138				
		ENH2-3	28-37	137-147				
CKB6-EW3865-63CK3	38-65	ENH2-1	56-65	129-139	36	63	128	CKB3-EWN3260-40
		ENH2-2	46-56	138-148				
		ENH2-3	38-47	147-157				
CKB6-EW4875-63CK3	48-75	ENH3-1	65-75	139-149	36	63	138	CKB3-EWN3260-40
		ENH3-2	56-66	148-158				
		ENH3-3	48-57	157-167				
CKB6-EW68100-74CK4	68-100	ENH3-1	87-100	182-195	36	74	179	CKB4-EWN4174-47
		ENH3-2	75-88	194-207				
		ENH3-3	68-80	202-215				
CKB6-EW95127-74CK4	95-127	ENH3-1	114-127	209-222	36	74	206	CKB4-EWN4174-47
		ENH3-2	102-115	221-234				
		ENH3-3	95-107	229-242				



Chuck for Large Diameter Boring Head



Specification	L	D	dm	G	
BT40-DM32-60	60	100	32	4-M12	2.42
BT50-DM32-100	100	100	32	4-M12	6.3
BT50-DM32-150	150	100	32	4-M12	9.2
BT50-DM32-200	200	100	32	4-M12	11.1
BT50-DM32-250	250	100	32	4-M12	12.9
BT50-DM32-300	300	100	32	4-M12	14.8



EWN Precision Boring Bar Cutting Conditions–BT40/BT50

©MAS 403 BT40



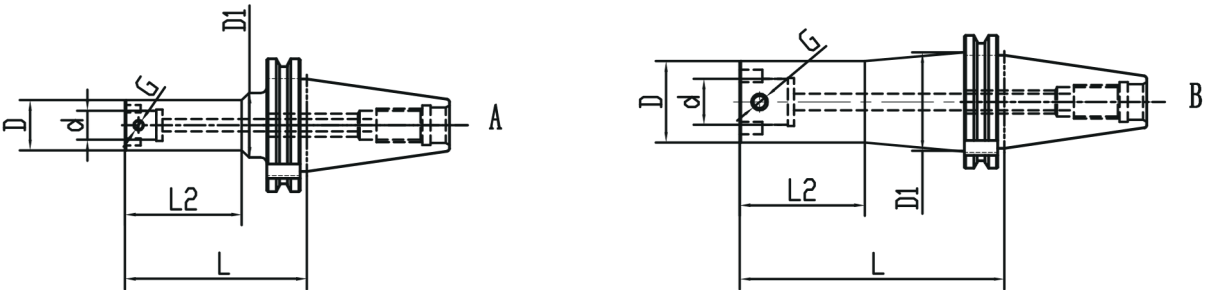
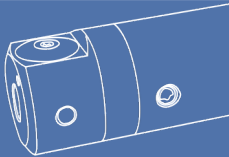
©BT40 MAS 403 BT (ISO40)

Specification	Material	PM	Nose radius	(m/min)	(mm/φ)	Feed (mm/rev)	
						Recommend	MAX
CKB1–EWN2036–32.5	P	78	0.2	130	0.18	0.05	0.12
	M		0.2	100	0.18	0.05	0.12
	N		0.2	65	0.15	0.04	0.08
	K		0.2	80	0.25	0.05	0.10
	S		0.4	170	0.25	0.05	0.12
CKB2–EWN2547–35.5	P	93	0.2	150	0.25	0.05	0.12
	M		0.2	120	0.25	0.05	0.12
	N		0.2	80	0.15	0.04	0.08
	K		0.2	80	0.25	0.05	0.10
	S		0.4	180	0.25	0.08	0.12
CKB3–EWN3260–40	P	105	0.2	150	0.30	0.05	0.12
	M		0.2	120	0.30	0.05	0.12
	N		0.4	80	0.15	0.06	0.10
	K		0.4	80	0.35	0.08	0.12
	S		0.4	210	0.35	0.08	0.12
CKB4–EWN4174–47	P	105	0.4	150	0.30	0.06	0.12
	M		0.4	120	0.30	0.06	0.12
	N		0.4	80	0.15	0.06	0.08
	K		0.4	80	0.35	0.08	0.12
	S		0.4	210	0.35	0.08	0.12
CKB5–EWN5395–57 CKB6–EWN68150–71 CKB6–EWN100203–71	P	105	0.4	150	0.30	0.06	0.12
	M		0.4	120	0.30	0.06	0.12
	N		0.4	80	0.15	0.06	0.08
	K		0.4	80	0.35	0.08	0.12
	S		0.4	210	0.35	0.08	0.12

©BT50 MAS 403 BT (ISO50)

Specification	Material	PM	Nose radius	(m/min)	(mm/φ)	Feed (mm/rev)	
						Recommend	MAX
CKB1–EWN2036–32.5	P	78	0.2	130	0.18	0.05	0.12
	M		0.2	100	0.18	0.05	0.12
	N		0.2	65	0.15	0.04	0.08
	K		0.2	80	0.25	0.05	0.10
	S		0.4	170	0.25	0.05	0.12
CKB2–EWN2547–35.5	P	105	0.2	150	0.25	0.05	0.12
	M		0.2	120	0.25	0.05	0.12
	N		0.2	80	0.15	0.04	0.08
	K		0.2	80	0.25	0.05	0.10
	S		0.4	180	0.25	0.08	0.12
CKB3–EWN3260–40	P	122	0.2	150	0.30	0.05	0.12
	M		0.2	120	0.30	0.05	0.12
	N		0.4	80	0.15	0.06	0.10
	K		0.4	80	0.35	0.08	0.12
	S		0.4	210	0.35	0.08	0.12
CKB4–EWN4174–47	P	122	0.4	150	0.30	0.06	0.12
	M		0.4	120	0.30	0.06	0.12
	N		0.4	80	0.15	0.06	0.08
	K		0.4	80	0.35	0.08	0.12
	S		0.4	210	0.35	0.08	0.12
CKB5–EWN5395–57 CKB6–EWN68150–71 CKB6–EWN100203–71	P	138	0.4	150	0.30	0.06	0.12
	M		0.4	120	0.30	0.06	0.12
	N		0.4	80	0.15	0.06	0.08
	K		0.4	80	0.35	0.08	0.12
	S		0.4	230	0.35	0.08	0.12



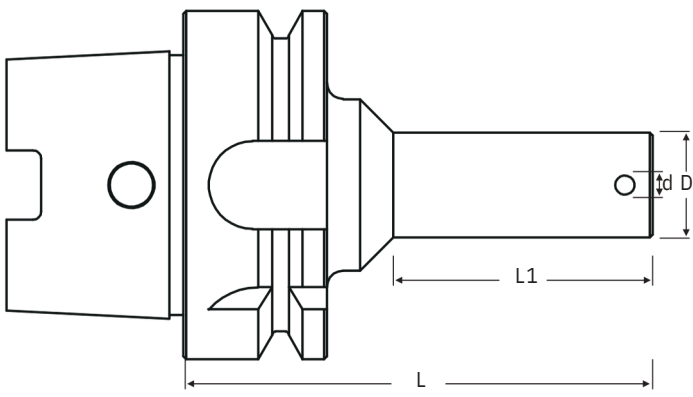


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Specification	Figure	L	L2	D	d	D1	G	
SK30-CKB1-80	A	80	46	1	1	3	M4*0.5	0.75
SK30-CKB2-80		80	46	9	1	1	M5*0.5	0.83
SK30-CKB3-80		80	58	21	1	3	M6*0.75	0.91
SK30-CKB4-80		80	58	3	4	39	M8*0.75	1.02
SK40-CKB1-85		85	49	9	1	3	M4*0.5	1.18
SK40-CKB1-115		115	79	1	8	1	M4*0.5	1.21
SK40-CKB2-85		85	49	9	2	3	M5*0.5	1.21
SK40-CKB2-115		115	79	1	2	1	M5*0.5	1.27
SK40-CKB3-95		95	68	9	1	3	M6*0.75	1.32
SK40-CKB3-125		125	80	2	1	1	M6*0.75	1.46
SK40-CKB3-155	B	155	85	4	1	37	M6*0.75	1.62
SK40-CKB3-185		185	115	2	1	37	M6*0.75	1.75
SK40-CKB4-95	A	95	68	3	1	39	M8*0.75	1.54
SK40-CKB4-125		125	98	1	4	39	M8*0.75	1.86
SK40-CKB4-155	B	155	128	3	1	36	M8*0.75	2.15
SK40-CKB4-185		185	148	1	4	46	M8*0.75	2.42
SK40-CKB5-95	A	95	68	3	1	/	M10*	1.81
SK40-CKB5-125		125	98	9	8	/	1	2.35
SK40-CKB5-155		155	128	3	1	/	M10*	2.75
SK40-CKB5-185		185	155	9	8	/	1	3.05
SK40-CKB5-215		215	180	4	1	/	M10*	3.3
SK40-CKB6-70		70	43	9	8	/	1	2.2
SK40-CKB6-95		95	68	4	1	/	M10*	2.75
SK40-CKB6-125		125	98	9	8	/	1	3.2
SK40-CKB6-155		155	128	4	2	/	M10*	3.4
SK40-CKB6-185		185	158	9	2	/	1	3.6
SK40-CKB6-215		215	188	4	2	/	M12*	3.8

9	2	1
4	2	M12*
9	2	1
6	2	M12*
3	2	1
6	2	M12*
3	8	1
6	2	M12*
3	8	1
6	2	M12*
3	8	1
6	2	
3	8	
6	2	
3	8	

HSK Holder

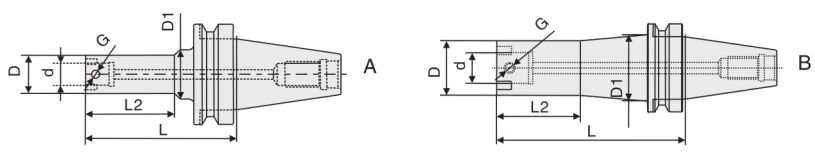


Runout:0.005 mm
Bore Tolerance:H5
Balancing:G6.3/15000 RPM
Balancing G2.5 can be made by request.
Usage:for clamping tools with straight shank and inclined fiat DIN1835-B.

Specification	D	d	L	L1	
HSK63A-CKB1-85	1	1	85	47	1.18
HSK63A-CKB1-115	9	1	115	77	1.21
HSK63A-CKB2-85	1	1	85	47	1.21
HSK63A-CKB2-115	9	1	115	77	1.27
HSK63A-CKB2-145	2	1	145	107	1.30
HSK63A-CKB3-95	4	4	95	69	1.32
HSK63A-CKB3-125	2	1	125	99	1.46
HSK63A-CKB3-155	4	4	155	129	1.62
HSK63A-CKB4-95	2	1	95	69	1.54
HSK63A-CKB4-125	4	4	125	99	1.86
125 HSK63A-CKB4-155	3	1	155	129	2.15
HSK63A-CKB5-95	1	8	95	69	1.81
HSK63A-CKB5-125	3	1	125	99	2.35
HSK63A-CKB5-155	1	8	155	129	2.75
HSK63A-CKB6-95	3	1	95	69	2.75
HSK63A-CKB6-125	1	8	125	99	3.2
HSK63A-CKB6-155	3	2	155	129	3.4

Unit: mm

CKB Chuck



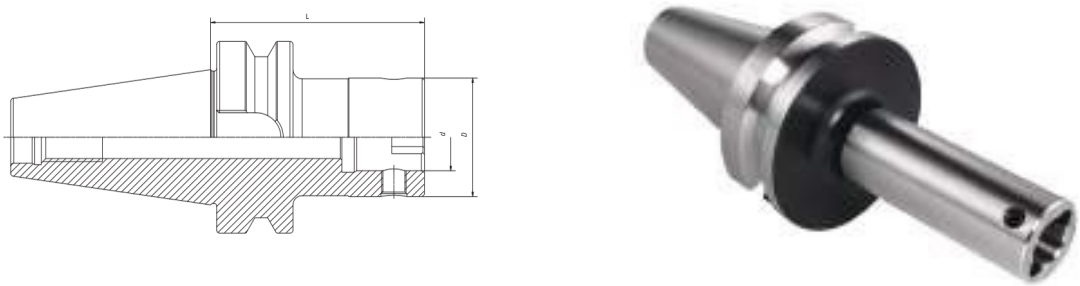
◎BT40 MAS 403 BT (IOS40)

Specification	Figure	L	L2	D	d	D1	G	
BT30-CKB1-80	A	80	46	19	11	31	M4×0.5	0.75
BT30-CKB2-80		80	46	24	14	31	M5×0.5	0.83
BT30-CKB3-80		80	58	31	18	31	M6×0.75	0.91
BT30-CKB4-80		80	58	39	22	39	M8×0.75	1.02
BT30-CKB5-65		65	42	49	28	49	M10×1	1.45
BT40-CKB1-85								
BT40-CKB1-115		115	79	19	11	31	M4×0.5	1.21
BT40-CKB2-85		85	49	24	14	31	M5×0.5	1.21
BT40-CKB2-115		115	79	24	14	31	M5×0.5	1.27
BT40-CKB2-145		145	105	24	14	31	M5×0.5	1.3
BT40-CKB3-95	B	95	68	31	18	31	M6×0.75	1.32
BT40-CKB3-125		125	80	31	18	37	M6×0.75	1.46
BT40-CKB3-155		155	85	31	18	37	M6×0.75	1.62
BT40-CKB3-185		185	115	31	18	37	M6×0.75	1.75
BT40-CKB4-95		95	68	39	22	39	M8×0.75	1.54
BT40-CKB4-125		125	98	39	22	39	M8×0.75	1.86
BT40-CKB4-155		155	128	39	22	46	M8×0.75	2.15
BT40-CKB4-185		185	120	39	22	46	M8×0.75	2.42
BT40-CKB5-95		95	68	49	28	49	M10×1	1.81
BT40-CKB5-125		125	98	49	28	49	M10×1	2.35
BT40-CKB5-155	A	155	128	49	28	49	M10×1	2.75
BT40-CKB5-185		185	155	49	28	49	M10×1	3.05
BT40-CKB5-215		215	180	49	28	49	M10×1	3.30
BT40-CKB6-65		65	43	63	36	63	M12×1	2.20
BT40-CKB6-95		95	68	63	36	63	M12×1	2.75
BT40-CKB6-125		125	98	63	36	63	M12×1	3.20
BT40-CKB6-155		155	128	63	36	63	M12×1	3.40
BT40-CKB6-185		185	158	63	36	63	M12×1	3.60
BT40-CKB6-215		215	188	63	36	63	M12×1	3.80

◎BT50 MAS 403 BT (IOS50)

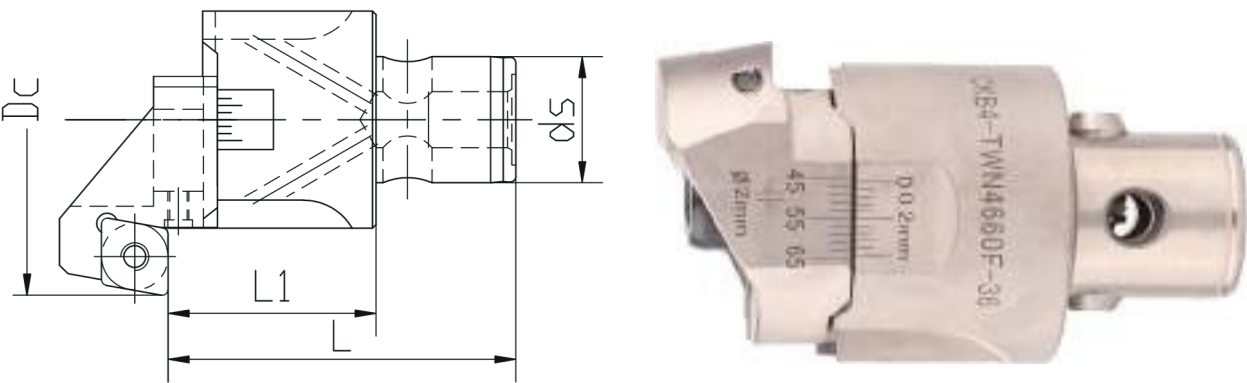
Specification	Figure	L	L2	D	d	D1	G	
BT50-CKB1-125	A	125	67	19	11	27	M4×0.5	3.93
BT50-CKB1-165	B	165	75	19	11	27	M4×0.5	4.05
BT50-CKB2-125	A	125	67	24	14	31	M5×0.5	4.08
BT50-CKB2-165	B	165	75	24	14	35	M5×0.5	4.20
BT50-CKB3-125	A	125	75	31	18	36	M6×0.75	4.10
BT50-CKB3-165		165	90	31	18	36	M6×0.75	4.35
BT50-CKB3-205	B	205	130	31	18	36	M6×0.75	4.70
BT50-CKB3-245		245	150	39	22	45	M8×0.75	5.30
BT50-CKB4-125	A	125	82	39	22	45	M8×0.75	4.35
BT50-CKB4-165		165	95	39	22	45	M8×0.75	4.70
BT50-CKB4-205	B	205	110	39	22	45	M8×0.75	5.02
BT50-CKB4-245		245	150	39	22	45	M8×0.75	5.30
BT50-CKB5-125	A	125	82	49	28	49	M10×1	4.75
BT50-CKB5-165		165	95	49	28	58	M10×1	5.20
BT50-CKB5-205	B	205	110	49	28	58	M10×1	5.53
BT50-CKB5-245		245	150	49	28	58	M10×1	5.95
BT50-CKB6-125	A	125	87	63	36	73	M12×1	5.15
BT50-CKB6-165		165	127	63	36	73	M12×1	6.10
BT50-CKB6-205	B	205	165	63	36	73	M12×1	7.40
BT50-CKB6-245		245	150	63	36	73	M12×1	7.75
BT50-CKB6-285		285	185	63	36	73	M12×1	8.10

BBT BORING HOLDER



Specification/Item	CK NO	D	d	L
BBT40-CK1-115	CK	1	1	115
BBT40-CK2-125	1	9	1	125
BBT40-CK3-125	CK	2	1	125
BBT40-CK4-135	2	4	4	135
BBT40-CK5-165	CK	3	1	165
BBT40-CK6-60	3	1	8	60
BBT40-CK6-160	CK	3	2	160
	4	9	2	
	CK	5	2	
	5	0	8	
	CK	6	3	
	6	4	6	
	CK	6	3	
	6	4	6	

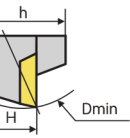
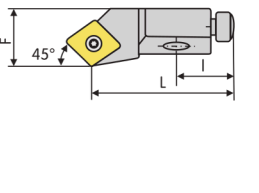
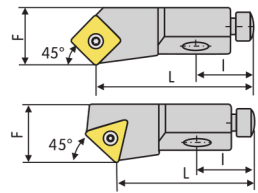
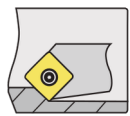
Counter Rough Boring Modular



Specification/Item	Data				Applicable Insert	Screw	WRENCH	
	DC	ds	L1	L				
CKB2-TWN3038F-29	30-38	1	2	6	CC..0602..	M2.5*6.5	T8	0.049
CKB3-TWN3747F-30	37-47	4	9	5	CC..09T3..	M4*10	T15	0.098
CKB4-TWN4660F-36	46-60	1	3	5	CC..09T3..	M4*10	T15	0.161
CKB5-TWN6081F-41	60-81	8	0	0	CC..1204..	M5*13	T20	0.301
CKB6-TWN79101F-56	79-101	2	3	5	CC..1204..	M5*13	T20	0.574
CKB6-TWN99130F-56	99-130	2	6	5	CC..1204..	M5*13	T20	1.225
	129-160	2	4	6	CC..1204..	M5*13	T20	1.575
CKB6-TWN129160F-56		8	1	5				
		3	5	7				
		6	6	0				
		3	5	7				
		6	6	5				
		3	5	7				
		6	6	5				
		3	5	7				

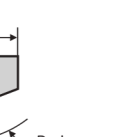
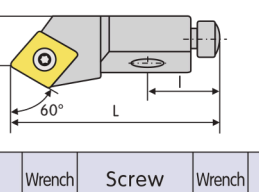
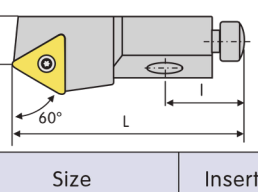
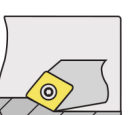


S□S□R/L45° Special Tools



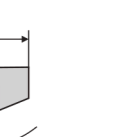
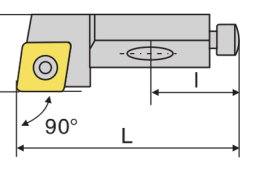
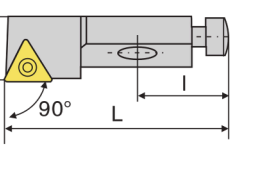
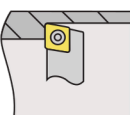
Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCSCL06CA-06	SCSCR06CA-06	6	8	8.5	12	21	20	CC..060204	SIC025065	FT07	SDC035120	S2.5	SAC030085	SSC030050	S1.5
SCSCL08CA-06	SCSCR08CA-06	8	10	11	17	28	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
STSCCL08CA-09	STSCR08CA-09	8	10	11	17	28	25	TC..090204	SIC022063						
SCSCL10CA-09	SCSCR10CA-09	10	14	15	20	44	40	CC..09T308	SIC035080	FT15	SCC060200	S4	SAC050145	SSC040080	S2
SSSCL10CA-09	SSSCR10CA-09	10	14	15	20	44	40	SC..09T308	SIC035080						
STSCCL10CA-11	STSCR10CA-11	10	14	15	20	44	40	TC..110204	SIC025065	FT07					
SSSCL12CA-09	SSSCR12CA-09	12	20	20	20	47	50	SC..09T308	SIC035080						
SSSCL12CA-12	SSSCR12CA-12	12	20	20	20	47	50	SC..120408	SID040110	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
STSCCL12CA-16	STSCR12CA-16	12	20	20	20	47	50	TC..16T308	SIC035080						
SSSCL16CA-12	SSSCR16CA-12	16	25	25	25	53	60	SC..120408	SID040110						
STSCCL16CA-16	STSCR16CA-16	16	25	25	25	53	60	TC..16T308	SIC035080	FT15	SCC080350	S5	SAC060145	SSC060160	S3

S□T□R/L60° Special Tools



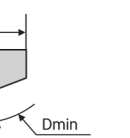
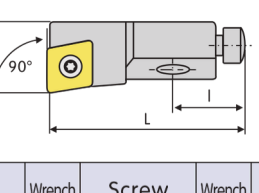
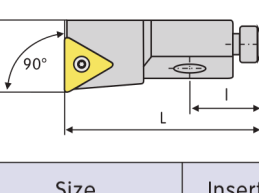
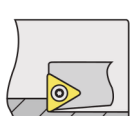
Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCTCL06CA-06	SCTCR06CA-06	6	5.5	8.5	12	25	20	CC..060204	SIC025065		SDC035120	S2.5	SAC030085	SSC030050	S1.5
SCTCL08CA-06	SCTCR08CA-06	8	6	11	17	32	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
STTCL08CA-09	STTCR08CA-09	8	6	11	17	32	25	TC..090204	SIC022063						
STTCL10CA-11	STTCR10CA-11	10	9	15	20	50	40	TC..110204	SIC025065		SCC060200	S4	SAC050145	SSC040080	S2
STTCL12CA-16	STTCR12CA-16	12	13	20	20	55	50	TC..16T308			SCC060250		SAC060145	SSC050120	S2.5
STTCL16CA-16	STTCR16CA-16	16	15	25	25	63	60		SIC035080	FT15	SCC080350	S5		SSC060160	S3
SCTCL10CA-09	SCTCR10CA-09	10	9	15	20	50	40	CC..09T308			SCC060200	S4	SAC050145	SSC040080	S2

S□G□R/L90° Special Tools



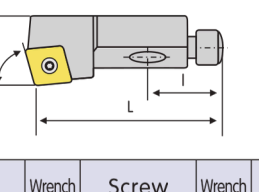
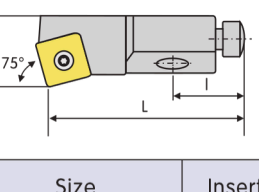
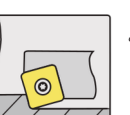
Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCGCL08CA-06	SCGCR08CA-06	8	10	11	17	32	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
SCGCL10CA-09	SCGCR10CA-09	10	14	15	20	50	40	CC..09T308	SIC035080	FT15	SCC060200	S4	SAC050145	SSC040080	S2
SCGCL12CA-09	SCGCR12CA-09	12	20	20	20	55	50	CC..09T308	SIC035080	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
SCGCL12CA-12	SCGCR12CA-12	12	20	20	20	55	50	CC..120408	SID040110	FT15	SCC060250	S4	SAC060145		
SCGCL16CA-12	SCGCR16CA-12	16	25	25	25	63	60	CC..120408	SID040110	FT15	SCC080350	S5	SAC060145	SSC060160	S3
STGCL08CA-09	STGCR08CA-09	8	10	11	17	32	25	TC..090204	SIC022063	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
STGCL10CA-11	STGCR10CA-11	10	14	15	20	50	40	TC..110204	SIC025065	FT07	SCC060200	S4	SAC050145	SSC040080	S2
STGCL12CA-16	STGCR12CA-16	12	20	20	20	55	50	TC..16T308	SIC035080	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
STGCL16CA-16	STGCR16CA-16	16	25	25	25	63	60	TC..16T308	SIC035080	FT15	SCC080350	S5	SAC060145	SSC060160	S3

S□F□R/L90°



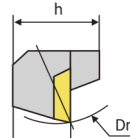
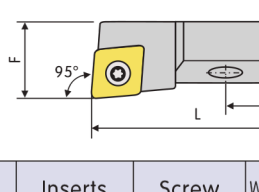
Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCFCL06CA-06	SCFCR06CA-06	6	8	8.5	12	25	20	CC..060204	SIC025065	FT07	SDC035120	S2.5	SAC030085	SSC030050	S1.5
SCFCL08CA-06	SCFCR08CA-06	8	10	11	17	32	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
SCFCL10CA-09	SCFCR10CA-09	10	14	15	20	50	40	CC..09T308	SIC035080	FT15	SCC060200	S4	SAC050145	SSC040080	S2
SCFCL12CA-09	SCFCR12CA-09	12	20	20	20	55	50	CC..09T308	SIC035080	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
SCFCL12CA-12	SCFCR12CA-12	12	20	20	20	55	50	CC..120408	SID040110	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
SCFCL16CA-12	SCFCR16CA-12	16	25	25	25	63	60	CC..120408	SID040110	FT15	SCC080350	S5	SAC060145	SSC060160	S3
STFCL08CA-09	STFCR08CA-09	8	10	11	17	32	25	TC..090204	SIC022063	FT07	SCC040160	S3	SAC040130	SSC030050	S1.5
STFCL10CA-11	STFCR10CA-11	10	14	15	20	50	40	TC..110204	SIC025065	FT07	SCC060200	S4	SAC050145	SSC040080	S2
STFCL12CA-16	STFCR12CA-16	12	20	20	20	55	50	TC..16T308	SIC035080	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
STFCL16CA-16	STFCR16CA-16	16	25	25	25	63	60	TC..16T308	SIC035080	FT15	SCC080350	S5	SAC060145	SSC060160	S3

S□k□R/L75°



Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCKCL06CA-05	SCKCR06CA-05	6	8	8.5	12	25	20	CC..060204	SIC025063	FT07	SDC035120	S2.5	SAC030085	SSC030050	S1.5
SCKCL08CA-06	SCKCR08CA-06	8	10	11	17	32	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130		
SSKCL10CA-09	SSKCR10CA-09	10	14	15	20	50	40	SC..09T308	SIC035080	FT15	SCC060200	S4	SAC050145	SSC040080	S2
SSKCL12CA-09	SSKCR12CA-09	12	20	20	20	55	50	SC..09T308	SIC035080	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5
SSKCL12CA-12	SSKCR12CA-12	12	20	20	20	55	50	SC..120408	SID040110	FT15	SCC060250	S4	SAC060145		
SSKCL16CA-12	SSKCR16CA-12	16	25	25	25	63	60	SC..120408	SID040110	FT15	SCC080350	S5	SAC060145	SSC060160	S3

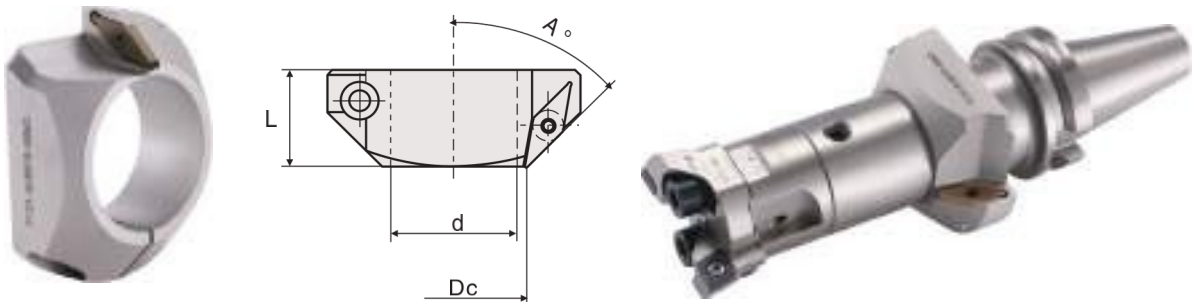
SCL□R/L95° Special Tools



Specification		Size						Inserts	Screw	Wrench	Screw	Wrench	Screw	Screw	Wrench
Left	Right	H	F	h	I	L	Dmin								
SCLCL06CA-06	SCLCR06CA-06	6	8	8.5	12	25	20	CC..060204	SIC025065	FT07	SDC035120	S2.5	SAC030085	SSC030050	S1.5
SCLCL08CA-06	SCLCR08CA-06	8	10	11	17	32	25	CC..060204	SIC025065	FT07	SCC040160	S3	SAC040130		
SCLCL10CA-09	SCLCR10CA-09	10	14	15	20	50	40	CC..09T308	SIC035080	FT15	SCC060200	S4	SAC050145	SSC040080	S2
SCLCL12CA-12	SCLCR12CA-12	12	20	20	20	55	50	CC..120408	SID040110	FT15	SCC060250	S4	SAC060145	SSC050120	S2.5

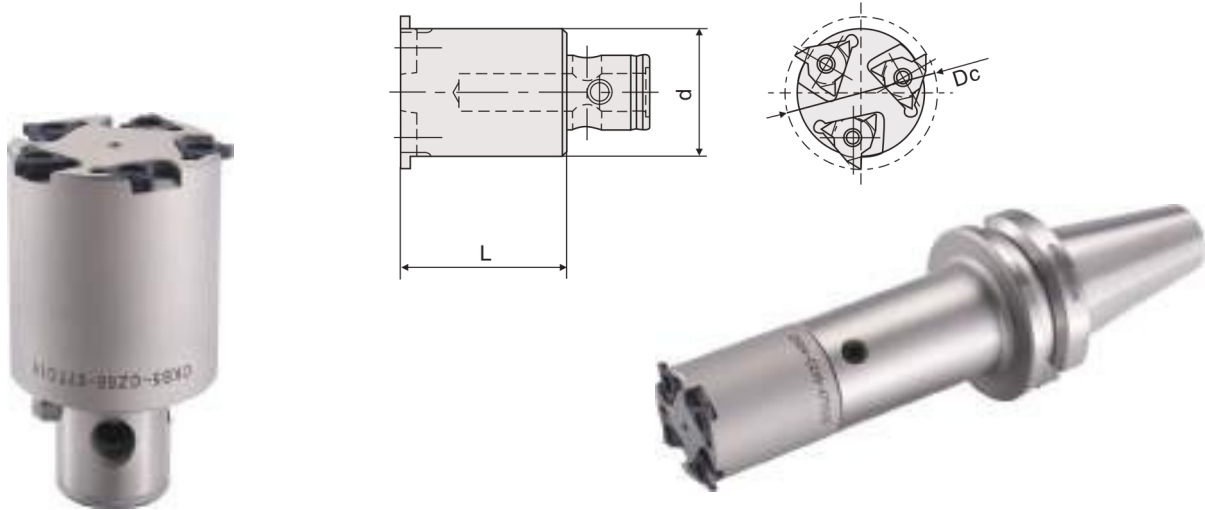


Chamfering Tools



Specification	Dc	d	L	A	Insert	Screw	Wrench	Store
CKB1-DJ2228-20A	22-28	19	20	45°	VCMT110304	M2.5X6.5	T8	○
CKB1-DJ2430-20B	24-30	19	20	30°	VCMT110304	M2.5X6.5	T8	○
CKB2-DJ2735-20A	27-35	24	20	45°	VCMT110304	M2.5X6.5	T8	○
CKB2-DJ2937-20B	29-37	24	20	30°	VCMT110304	M2.5X6.5	T8	○
CKB2-DJ3038-20A	30-38	24	20	45°	VCMT110304	M2.5X6.5	T8	○
CKB2-DJ3240-20B	32-40	24	20	30°	VCMT110304	M2.5X6.5	T8	○
CKB3-DJ3949-20A	39-49	31	20	45°	VCMT110304	M2.5X6.5	T8	○
CKB3-DJ4151-20B	41-51	31	20	30°	VCMT110304	M2.5X6.5	T8	○
CKB4-DJ4861-30A	48-61	39	30	45°	VCMT160408	M4X10	T15	○
CKB4-DJ5063-30B	50-63	39	30	30°	VCMT160408	M4X10	T15	○
CKB5-DJ6077-30A	60-77	49	30	45°	VCMT160408	M4X10	T15	○
CKB5-DJ6279-30B	62-79	49	30	30°	VCMT160408	M4X10	T15	○
CKB6-DJ7698-30A	76-98	63	30	45°	VCMT160408	M4X10	T15	○
CKB6-DJ78100-30B	78-100	63	30	30°	VCMT160408	M4X10	T15	○

◎ Slot Milling Cutters



Specification	Dc	d	L	Insert	Screw	Teeth	Wrench	Screw	kg	Store
CKB2-CZ28-35TGF32	28	24	35	TGF32L3050-TGF32L3280	M4X10	2	T15	TW40TS	0.14	○
CKB3-CZ37-40TGF32	37	31	40	TGF32L3050-TGF32L3280	M4X10	3	T15	TW40TS	0.23	○
CKB4-CZ45-47TGF32	45	39	47	TGF32L3050-TGF32L3280	M4X10	4	T15	TW40TS	0.43	○
CKB5-CZ55-57TGF32	55	50	57	TGF32L3050-TGF32L3280	M4X10	5	T15	TW40TS	0.82	○
CKB6-CZ70-70TGF32	70	63	70	TGF32L3050-TGF32L3280	M4X10	6	T15	TW40TS	1.75	○

S	○
W	○
C	○
S	○
P	○
P	○
D	○
L	○
W	○
D	○
X	○
Chuck	○
Carbide Inserts	○
Rough Boring Head	○
Finish Boring Head	○
Chuck	○
Accessories	○
Chamfering Tools	○
Slot Milling Cutters	○

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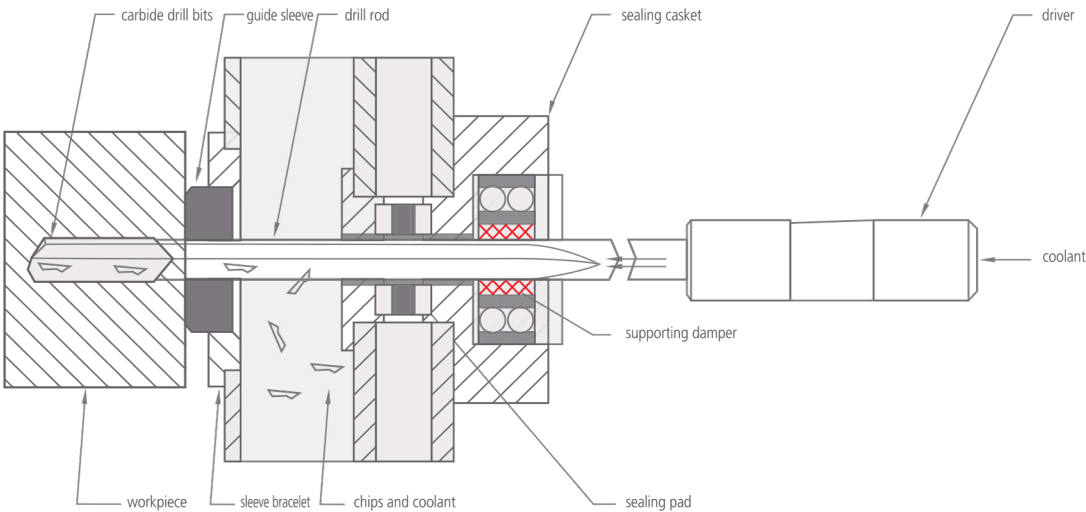
GUN DRILL TECHNOLOGY

The art of gun drills

The gun drill has a decisive impact on the generation and development of deep hole drilling technology. The single flute drills can achieve extremely high aperture tolerance, surface texture and small vibration variance. This allows the gun drill to be used in precise hole machining. In practical application, the direct drills operation can replace part of the reaming operation, which has a strong sense of mechanical reliability.

The gun drill is composed of carbide drill bit, drill rod, and driver, which can be suitable for most of material processing, such as cast iron, stainless steel, aluminium, graphite, wood products, and all kinds of nonferrous metals. The gun drill is the single flute cutting tool, the hole needs to be guided by the guide bush. With the development of CNC machine industry, gun drill tools are not only suitable for itself only, but also suitable for high pressure internal embedded liquid coolant CNC lathes, machining center and other complex numeric lathes as well.

Shin-IL company can produce drill tools with diameter of 1mm-50mm, the length ratio is more than 250x, and the longest length can reach 5000mm. The pattern of drill tool is divided into standard gun drills. non standard (step gun drills, spherical gun drills, etc.). Coating and PCD gun drills, overall carbide solid drills, and clip type gun drills etc.

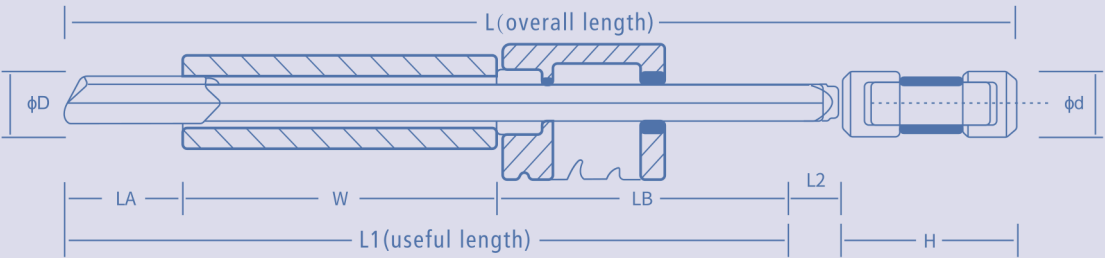


- Use vertical and horizontal equipment with a high pressure internal cooling system
- Use special cutting oil or coolant for deep hole drilling and make sure to provide sufficient pressure and flowrate.
- Because the gun drill without self-center orientation, so in the processing it must use guide sleeve or pilot hole, serves as centering for gun drill machining.
- Using the correct machining parameters for optimal drilling hole processing.

◎ Gun Drill Length Calculation And Code

- The nominal cutting blade diameter can be subdivided to 0.001mm according to customer needs
- Please mark the order according to the following standard

D(drill bit diameter) x L(overall length) – handle/driver number



- L(overall length)
- D=drill bit diameter
- W=drilling depth
- L=overall length
- LB=width of supporting guide casket
- L1(useful length)
- H=handle/driver number
- LA=drill tip length
- L1=useful length
- L2=minimum for chips discharge allow

overall length calculated as follows:
overall length=LA (drill tip length) + W (drilling depth) + LB (width of supporting guide casket) + L2 (minimum for chips discharge allow) + H (handle length)

- Please highlight the workpiece material, hardness, hole tolerance, and hole brightness

◎ Additional technical services

Grinding tools

Provide grinding of carbide gun drill, including grinding service per customer request

Replace, and weld the new carbide drill
(Assume drill handle and rod are also available for use)

- 1.check the useful status of the gun drill
- 2.remove the cripple or damaged drill bit
- 3.install and weld a new bit
- 4.calibrate the gun drill

Replace and renew drill tips and rods.
(Assume drill handle is also available for use)

- 1.check the useful status of the gun drill
- 2.remove the cripple waste drill bits and drill rods
- 3.install and weld new drill bits and drill rods
- 4.calibrate the gun drill

Coating service

Provide standard, necessary coating service for drilling tools.

◎ Brazed Gun Drill

Brazed single flute gun drill is made up of the drilltip, drill rod and drill handle through welding into awhole,can be processed according to the differentchoice of the carbide materials by means of reasonabletool design. The bit is usually made of integral solid car-bide, with the tip portion welded to a heat treated drillrod and then linked to a finely polished steel drill handle.For special materials of the workpiece, drill bits can also be treated with different kinds of coatings.



◎ Stock Of Brazed Single Flute Gun Drills

specification	235mm ()		270mm(L)		handle/driver	800mm (L)	1000mm (L)	1200mm (L)	1440mm (L)	1650mm (L)	1800mm (L)	handle/driver
	standrad	coating	standrad	coating								
Φ3.02	◆	◆			10*40	◆	◆					25*70
Φ3.52	◆	◆				◆	◆					
Φ4.02	◆	◆				◆	◆	◆				
Φ4.52	◆	◆				◆	◆	◆				
Φ5.02	◆	◆				◆	◆	◆	◆			
Φ5.52	◆	◆					◆	◆	◆			
Φ6.02	◆	◆					◆	◆	◆	◆		
Φ6.52	◆	◆					◆	◆	◆	◆		
Φ7.02	◆	◆	◆				◆	◆	◆	◆		
Φ7.52	◆	◆					◆	◆	◆	◆		
Φ8.02	◆	◆	◆				◆	◆	◆	◆	◆	
Φ8.52	◆	◆					◆	◆	◆	◆		
Φ9.02	◆	◆	◆				◆	◆	◆	◆		
Φ9.52	◆	◆					◆	◆	◆	◆		
Φ10.02	◆	◆	◆				◆	◆	◆	◆	◆	
Φ10.52	◆	◆					◆	◆	◆	◆		
Φ11.02	◆	◆	◆					◆	◆	◆		
Φ11.52	◆	◆						◆	◆	◆		
Φ12.02	◆	◆	◆					◆	◆	◆	◆	

◆ = available stock

BRAZED GUNDRILLS

◎ Standard Driver Of The Brazed Gun Drills

specification	diameter Φdia.(mm)	drawing	tool length calculation		fix position part X	screw spec M
			clamping part D	transitional L		
SH10-00	1		40		24.0	
SH16-03	0		45	5	31.0	
SH25-00	1		70	3	34.0	
SH10-01	6		40	7	24.0	
	2			8		
SH16-04	46		45	725	31.0	
SH25-01	1250		70	705	34.0	
SH16-02	16		50	58	47.5	
SH16-33	16		50	77	47.5	
SH10-06	10			60		M6x0.5
SH16-15	16			80		M10x1
SH25-08	25			100		M16x1.5
SH10-28	10		60	77		M6x0.5
SH16-22	16		60	105		M10x1
SH25-10	25		100	140		M16x1.5
SH12.7-00	12.7			38.1		25.3
SH19.05-01	19.05			70		45.0
SH25.4-00	25.4			70		57.5
SH31.7-00	31.7			70		57.5
SH38.1-01	38.1			70		57.5
SH19.05-11	19.05		70	97		45.0
SH25.4-11	25.4		70	100		57.5
SH31.7-01	31.7		70	111		57.5
SH38.1-01	38.1		70	110		57.5
SH10-44	10		60	68		
SH16-31	16		80	90	35	M6x0.5
SH25-34	25		100	100	37	M10x1
SH16-66	16		100	80	45	M16x1.5
			80		37	M10x1
			100	100	45	M16x1.5
SH25-40	2		40	40		28.0
SH10-30	5		45	45		33.0
SH12-14	1		48	48		36.0
SH16-70	0		50	50		38.0
SH20-56	1					

BRAZED GUNDRILLS

specification	diameter Φdia.(mm)	drawing	tool length calculation		fix position part X	screw spec M
			clamping part D	transitional L		
SH16-00	1			112	73.0	TR16x1.5
SH20-00	6			126	82.0	TR 20x2
SH28-00	2			126	82.0	TR 28x2
SH36-00	0			162	109.0	TR 36x2
SH16-21	2			40		28.0
SH25-16	8			50		35.0
SH35-00	3			60		40.0
SH16-30	6		4	67		28.0
SH25-20	1		0	77		35.0
SH35-01	6		5	100		40.0
SH10-40	2		0			
SH12-18	5		6			
SH16-11	3		0			
SH20-01	5		4			
SH25-11	1		0			
SH32-24	6		4			
SH40-03	2		5			
SH10-41	5		4			
SH12-19	3		8	57		
SH16-20	5		5	62		
SH20-60	1		0	75		
SH25-21	0		5	77		
SH32-23	1		6	86		
SH40-04	2		6	100		
SH10-11	1		0	110		
SH12-07	6		7	40		23.
SH16-32	2		0	45		5
SH20-29	0		4	48		26.
SH25-22	2		0	50		5
SH32-10	5		4	56		29.
SH40-13	3		5	60		0
SH10-23	2		4	70		30.
SH12-02	4		8	57		5
SH16-53	0		6	62		38.
SH20-34	1		0	75		0
SH25-31	0		5	77		43.
SH32-11	1		8	86		0
SH40-14	2		8	100		47.
SH10-20	1		6	110		0
SH12-08	6		0	40		23.
SH16-47	2		0	45		5
SH20-40	0		6	48		26.
SH25-36	2		6	50		5
SH32-12	5		0	56		29.
SH40-18	3		7	60		0
SH10-24	2		0	70		30.
SH12-05	4		5	57		5
SH16-51	0		4	62		38.
SH20-43	1		0	75		0
SH25-37	0		4	77		43.
SH32-13	1		5	86		0
SH40-17	2		4	100		47.
SH10-29	1		8	110		0
SH12-13	6		5	40		28.
SH16-62	2		0	45		0
SH20-55	0		5	48		33.
	2		6	50		0
	5		6			36.
	3		0			0
	2		7			38.
	4		0			0
	0					44.
	1					0
	0					48.
	1					0
	2					66.
	1					0
	6					28.

◎ Machining Parameters Of The Brazed Single Flute Gun Drill

workpiece material	spring steel prehardened steel cast iron chilled cast iron titanium alloy special steel (nickel base heat resistant alloy nickel alloy)	stainless steel austenitic stainless steel 18-25% Cr Ni > 8%	martensitic stainless steel ferritic steel (normal stainless steel cast stainless steel) 13-25%Cr free cutting steel (sulphurized steel)	alloy steel quenching and tempered steel case hardened steel nitriding steel tool steel (>900N/mm ²)
cutting speed m/min	25~60	30~60	40~70	60~80

diameter Φ		feed rate: mm/rev			
2.0-2.49	0.001~0.002	0.002~0.005	0.002~0.006	0.002~0.005	
2.5-2.99	0.001~0.005	0.004~0.007	0.004~0.007	0.004~0.006	
3.0-3.49	0.002~0.007	0.006~0.008	0.005~0.009	0.005~0.007	
3.5-3.99	0.004~0.008	0.008~0.009	0.007~0.011	0.007~0.010	
4.0-4.49	0.006~0.009	0.009~0.010	0.008~0.013	0.008~0.012	
4.5-4.99	0.008~0.011	0.010~0.013	0.009~0.017	0.011~0.015	
5.0-5.99	0.010~0.014	0.012~0.015	0.013~0.019	0.013~0.018	
6.0-6.99	0.012~0.016	0.014~0.017	0.015~0.023	0.015~0.022	
7.0-7.99	0.015~0.018	0.016~0.019	0.18~0.026 0.020~0.031	0.018~0.025	
8.0-8.99	0.018~0.021	0.018~0.021	0.023~0.034 0.025~0.041	0.020~0.027	
9.0-9.99	0.021~0.025	0.020~0.028	0.030~0.045 0.035~0.052	0.023~0.030	
10.0-11.99			0.042~0.060	0.025~0.038	
12.0-13.99	0.025~0.030	0.025~0.033	0.045~0.067 0.050~0.079	0.029~0.044	
14.0-15.99			0.054~0.090 0.059~0.098	0.035~0.050	
16.0-17.99	0.027~0.033	0.030~0.044	0.065~0.107	0.039~0.053	
18.0-19.99					
20.0-23.99	0.029~0.040	0.035~0.044		0.044~0.060	
24.0-27.99	0.033~0.044	0.041~0.050		0.049~0.069 0.054~0.0077	
28.0-31.99					
32.0-40.0	0.037~0.049	0.045~0.062			
	0.041~0.054	0.049~0.071			
	0.045~0.057	0.052~0.083			
	0.049~0.062	0.057~0.091		0.059~0.085	
	0.052~0.065	0.063~0.098		0.063~0.098	

● The cutting speed and feed rate depend on : tool diameter, tool lenath, cutting fluid, vorkpiece material, characterization of machine and clamping condition. The processing parameters in the above table are the standard normal value for reference. The practical actual working condtions on site are the true value.

cast iron grey cast iron (<300N/mm ²) nodular cast iron (<400N/mm ²)	cast iron grey cast iron (<300N/mm ²) grey cast iron (<400N/mm ²) malleable cast iron white heart malleable cast iron black heart malleable cast iron	structural steel quenching and tempered steel high carbon low alloy steel case hardened steel nitriding steel tool steel (>900N/mm ²) free cutting steel	brass bronze copper plastic	aluminium cast aluminium Si> 5% free cutting aluminium	aluminium cast aluminium Si > 5% non quenched aluminium
60~90	70~100	70~100	80~150	80~160	100~300

feed rate: mm/rev					
0.005~0.018	0.005~0.019	0.003~0.007	0.003~0.015	0.002~0.012	0.005~0.005
0.008~0.028	0.008~0.02	0.005~0.010	0.005~0.020	0.004~0.026	0.004~0.008
0.009~0.038	0.009~0.038 0.011~0.046	0.007~0.012	0.006~0.030	0.006~0.037	0.006~0.012
0.011~0.042	0.012~0.050 0.016~0.057	0.009~0.015	0.007~0.045	0.007~0.055	0.007~0.025
0.012~0.047	0.018~0.068 0.024~0.074	0.012~0.019	0.008~0.050	0.008~0.071	0.008~0.026
0.016~0.052	0.028~0.085 0.032~0.096	0.014~0.020	0.009~0.057	0.009~0.094	0.009~0.028
0.018~0.065	0.036~0.114 0.050~0.120	0.016~0.026	0.010~0.069	0.010~0.109	0.010~0.036
0.024~0.071	0.060~0.138 0.070~0.154	0.018~0.028	0.012~0.079	0.012~0.125	0.012~0.045
0.028~0.084	0.079~0.170 0.090~0.191	0.021~0.035	0.014~0.092	0.018~0.130	0.014~0.049
0.032~0.092	0.106~0.207 0.120~0.221	0.024~0.036	0.016~0.101	0.020~0.144	0.016~0.056
0.36~0.110	0.140~0.237 0.160~0.245	0.027~0.040	0.018~0.113	0.023~0.158	0.018~0.034
0.045~0.116					
0.051~0.126		0.030~0.04	0.020~0.139	0.025~0.174	0.020~0.074
0.057~0.138		0.036~0.060			
0.620~0.158		0.042~0.071	0.024~0.156	0.030~0.182	0.024~0.087
0.066~0.173		0.048~0.079			
0.069~0.189		0.054~0.091	0.028~0.179	0.035~0.194	0.028~0.099
0.076~0.210		0.060~0.107			
0.079~0.212		0.069~0.117	0.033~0.199	0.050~0.209	0.033~0.108
0.086~0.228		0.079~0.134 0.085~0.154	0.036~0.244	0.054~0.228	0.036~0.130
			0.040~0.249	0.060~0.254	0.040~0.146
			0.048~0.291	0.072~0.295	0.048~0.169
			0.056~0.327	0.084~0.360	0.056~0.194
			0.064~0.380	0.096~0.455	0.064~0.221

● The cutting speed and feed rate depend on : tool diameter, tool length, cutting fluid, workpiece material, characterization of machine and clamping condition. The processing parameters in the above table are the standard normal value for reference. The practical actual working conditions on site are the true value.

SOLID CARBIDE GUN DRILL

SOLID CARBIDE GUN DRILL

■ Solid carbide gun drill

The solid carbide gun drill is made of drill body(drill tip and drillrod integrated) and the drill handle from two parts by welding as a whole. It can also be made by the whole carbide.(drill tip,drill rod and handle integrated) Its stabil-ity, efficiency and useful life are better than the welding type. This design ensures higher reliability and cutting per-formance, while it compromise higher rigidity and less dis-torted vibration. It is therefore enjoy a longer tool life.

Drilling diameter range:1.00- 12.00

Made it up for maximum 550mm overall length



Solid carbide gun drill stock table		
Φ 1.52*160-10*55	Φ 2.0*250-10*135	Φ 3.8*185-4*38/50-L
Φ1.80*160-10*55	Φ2.2*170-4*38/50	Φ3.8*240-10*100-L
Φ2.02*160-10*55	Φ2.5*175-4*38/50-L	Φ3.8*275-10*135-L
Φ2.02*180-10*55	Φ2.5*230-10*100-L	Φ4.0*185-4*38/50-L
Φ2.02*180-10*55-L	Φ2.5*265-10* 135-L	Φ4.0*240-10*100-L
Φ2.02*200-10*55	Φ2.6*175-4*38/50-L	Φ4.0*275-10*135-L
Φ2.02*200-10*55-L	Φ2.6*265-10*135-L	Φ4.2*185-4*38/50-L
Φ2.52*180-10*55	Φ2.8*175-4*38/50-L	Φ4.2*240-10*100-L
Φ2.52*180-10*55-L	Φ2.8*265-10*135-L	Φ4.2*275-10*135-L
Φ3.02*180-10*55	Φ3.0*175-4*38/50-L	Φ4.5*285-10*135-L
Φ3.02*200-10*55	Φ3.0*230-10*100-L	Φ4.8*250-10*100-L
Φ3.02*200-10*55-L	Φ3.0*265-10*135-L	Φ5.0*250-10*100-L
Φ2.8*170-2.9*30-L	Φ3.2*180-4*38/50-L	Φ5.0*260-10*100-L
Φ3.0*170-2.9*30-L	Φ3.2*230-10*100-L	Φ6.0*260-10*100-L
Φ3.2*170-3.1*30-L	Φ3.2*265-10*135-L	Φ6.0*295-10*135-L
Φ1.80*200-10*100	Φ3.5*180-4*38/50-L	Φ7.0*280-10*100-L
Φ2.0*170-4*38/50	Φ3.5*230-10*100-L	Φ9.0*280-10*100-L
Φ2.0*220-10*100	Φ3.5*265-10*135-L	Φ10.0*280-10*100-L

● L:TIALN

© Table Of Soild Carbide Gun Drill Handle

Specification	Diamete(mm)Φdia.	Drawing	Handle length calculation		Fix position x	Screw spec M
			Clamping part D	Transitional part L		
SH6-03	6		30	45	17	
SH10-15	10		55	70		M6*0.5
SH10-37	10		40	55	32.7	M6*0.5
SH10-42	10		40	55	24	
SH12.7-01	12.7		38	48	25.4	
SH12.7-09	12.7		51	65		M6*0.5
SH16-75	16		80	105	37	M10*1
SH4-08	4		3	46		
SH6-12			4			
SH10-51	6		3	5		
SH12-27	10		6	0		
SH16-86	12		4	5		
SH6-13	16		0	8		
			4	0		
SH10-47	6		5	6		
SH12-30	10		4	3	20	
SH16-78	12		8	5		
SH6-01	16		3		23.5	
SH10-49	6		6	0	26.5	
SH12-28	10		5			
SH16-84	12		4	5	29	
	16		0	6	25	
			4		2	
			5	0	8	
			6	6	3	
			4	3	3	
			8	5	6	
			3	0		
			6	5		
			4	5		
			0	6		
			4	0		
			5	6		
			4	3		

◎ Solid Carbide Gun Drill Machining Parameters

workpiece material	spring steel preharden steel hot work steelcast iron steel chilled cast iron titanium alloy special alloy (Ni base alloy nickel alloy)	stainless steel corrosive resistant steel austenitic steel 18~25% CrNi>8%	martensitic steel ferritic steel normal stainless steel cast stainless steel (1.2~1.4% Cr free cutting steel)	alloy steelquenching and tempered steel case hardened steel nitriding steel tool steel(>900N/mm2)
cutting speed m/min	25~60	30~60	40~70	60~80

diameter Φ		feed rate: mm/rev			
0.7~0.79	0.0004~0.0012	0.0005~0.0012	0.0007~0.0012	0.0005~0.0012	
0.8~0.89	0.0006~0.0016	0.0070~0.0015	0.0011~0.0014	0.0006~0.0015	
0.9~0.99	0.0009~0.0020	0.0011~0.0019	0.0014~0.0017	0.0009~0.0019	
1.0~1.09	0.0013~0.0024	0.0014~0.0022	0.0019~0.0022	0.0010~0.0023	
1.1~1.19	0.0017~0.0028	0.0017~0.0025	0.0022~0.0026	0.0013~0.0029	
1.2~1.29	0.0020~0.0033	0.0020~0.0027	0.0024~0.0028	0.0015~0.0035	
1.3~1.39	0.0023~0.0036	0.0022~0.0029	0.0031~0.0035	0.0020~0.0041	
1.4~1.49	0.0026~0.0038	0.0023~0.0031	0.0034~0.0037	0.0021~0.0047	
1.5~1.59	0.0029~0.0042	0.0024~0.0035	0.0035~0.0042	0.0021~0.0051	
1.6~1.79	0.0035~0.0054	0.0036~0.0049	0.0040~0.0051	0.0024~0.0066	
1.8~1.99	0.0040~0.0065	0.0040~0.0065	0.0050~0.0065	0.0030~0.0075	
2.0~2.49	0.0050~0.0075	0.0050~0.0075	0.0050~0.0075	0.0030~0.0095	
2.5~2.99	0.0060~0.0095	0.0060~0.0095	0.0060~0.0110	0.0040~0.0110	
3.0~3.49	0.0080~0.0110	0.0080~0.0110	0.0080~0.0130	0.0050~0.0140	
3.5~3.99	0.0090~0.0125	0.0100~0.0160	0.0090~0.0160	0.0070~0.0160	
4.0~4.49	0.0100~0.0135	0.0110~0.0180	0.0100~0.0190	0.0080~0.0190	
4.5~4.99	0.0110~0.0160	0.0140~0.0220	0.0110~0.0220	0.0110~0.0210	
5.0~5.99	0.0130~0.0220	0.0150~0.0240	0.0130~0.0250	0.0120~0.0250	
6.0~7.99	0.0150~0.0300	0.0180~0.0290	0.0150~0.0370	0.0150~0.0330	
8.0~12.0					
	0.0180~0.0380	0.0210~0.0330	0.0170~0.0410	0.0180~0.0380	

● The cutting speed and feed rate depend on: tool diameter,tool length,cutting fluid, workpiece material, characterization ofmachine and clamping condition. The processing parameters in the above table are the standard normal value for reference.The practical actual working conditions on site are the true value.

cast iron grey cast iron (<300N/mm2) nodular cast iron (< 400N/mm2)	cast iron grey cast iron (<300N/mm2) nodular cast iron (<400N/mm2) malleable cast iron white heart malleable cast iron black heart malleable cast iron	structural steel quenching and tempered steel high carbon low alloy steel case hardened steel nitriding steel tool steel (>900N/mm2) free cutting steel	brass bronze copper plastic	aluminium cast aluminium Si> 5% free cutting aluminium	aluminium cast aluminium Si > 5% non quenched aluminium
60~90	70~100	70~100	80~150	80~160	100~300

feed rate: mm/rev					
0.0009~0.0014	0.0007~0.0018	0.0004~0.0018	0.0005~0.0012	0.0007~0.0012	0.0005~0.0009
0.0012~0.0018	0.0010~0.0023	0.0004~0.0022	0.0008~0.0015	0.0012~0.0014	0.0008~0.0012
0.0015~0.0024	0.0014~0.0028	0.0007~0.0026	0.0011~0.0019	0.0017~0.0020	0.0011~0.0017
0.0019~0.0029	0.0018~0.0032	0.0010~0.0032	0.0015~0.0024	0.0020~0.0024	0.0015~0.0024
0.0025~0.0035	0.0022~0.0038	0.0014~0.0038	0.0019~0.0029	0.0022~0.0029	0.0019~0.0034
0.0031~0.0041	0.0030~0.0048	0.0018~0.0041	0.0024~0.0034	0.0024~0.0034	0.0024~0.0041
0.0040~0.0051	0.0039~0.0060	0.0020~0.0050	0.0028~0.0039	0.0026~0.0045	0.0026~0.0044
0.0047~0.0060	0.0049~0.0079	0.0021~0.0054	0.0031~0.0047	0.0028~0.0055	0.0032~0.0048
0.0053~0.0068	0.0056~0.0100	0.0021~0.0067	0.0032~0.0053	0.0035~0.0066	0.0038~0.0059
0.0064~0.0095	0.0064~0.0150	0.0028~0.0075	0.0035~0.0095	0.0040~0.0085	0.0040~0.0075
0.0070~0.0130	0.0070~0.0220	0.0030~0.0095	0.0040~0.0130	0.0050~0.0110	0.0050~0.0110
0.0100~0.0220	0.0090~0.0330	0.0040~0.0120	0.0040~0.0180	0.0050~0.0200	0.0070~0.0130
0.0130~0.0320	0.0110~0.0430	0.0050~0.0160	0.0050~0.0250	0.0060~0.0360	0.0080~0.0170
0.0150~0.0390	0.0140~0.0530	0.0080~0.0180	0.0060~0.0370	0.0080~0.0540	0.0100~0.0200
0.0180~0.0480	0.0180~0.0620	0.0090~0.0230	0.0070~0.0490	0.0110~0.0750	0.0100~0.0250
0.0200~0.0560	0.0200~0.0690	0.0120~0.0260	0.0080~0.0600	0.0120~0.0950	0.0130~0.0300
0.0230~0.0640	0.0230~0.0780	0.0140~0.0280	0.0090~0.0690	0.0140~0.1300	0.0160~0.0360
0.0250~0.0760	0.0250~0.0950	0.0150~0.0380	0.0100~0.0800	0.0150~0.1550	0.0200~0.0470
0.0300~0.1100	0.0300~0.1250	0.0180~0.0490	0.0120~0.0960	0.0180~0.0250	0.0260~0.0660
0.0330~0.1190	0.0350~0.1360	0.0210~0.0570	0.0140~0.1100	0.0210~0.2080	0.0290~0.0780

● The cutting speed and feed rate depend on: tool diameter,tool length,cutting fluid, workpiece material, characterization ofmachine and clamping condition. The processing parameters in the above table are the standard normal value for reference.The practical actual working conditions on site are the true value.

◎ Brazed Gun Drill

The nominal cutting blade diameter can be subdivided to 0.001mm according to customer needs

◎ Product Features

No more grinding, easy to replace the blades and guides.
Special blade port treatment has high cutting speed and cutting ability.



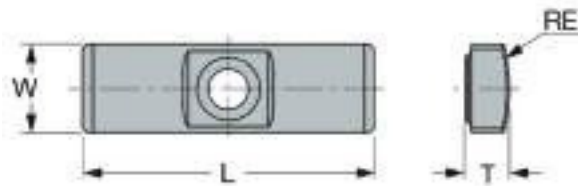
◎ Proportion Table

Dia	Application Inserts	Screw	Wrench
14-17	TPMX0902	M2.5*6	T8
18-21	TPMX1403	M2.5*6	T8
22-25	TPMX1704	M3.5*9	T15
26-29	TPMX2204	M4*10	T15
30-35	TPMX2405	M4*10	T15
36-42	TPMX2807	M5*12	T20

Dia	Application Inserts	Screw	Wrench
13.5-15	05-18-060	M2.2*4.5	T7
15.5-17	05-18-075	M2.2*4.5	T7
17.5-19.8	06-20-085	M2.5*6	T8
20.3-23.8	06-20-100	M2.5*6	T8
24.2-28	06-20-120	M2.5*6	T8
30-39	07-20-120	M3*6.5	T8

◎ Proportion Table

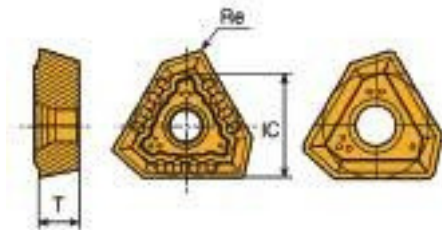
Dia	Insert	Screw	Wrench	Guide	Screw	Wrench
14.00-15.99	TOGT070304	M2.5*5	T8	GPS05-18-060	M2.2*4.5	T7
	TOGT080305	M2.5*5	T8	GPS05-18-075	M2.2*4.5	T7
16.00-18.00	TOGT090305	M2.5*5	T8	GPS06-20-085		
18.01-19.99	TOGT100305	M3.0*6.5	T8	GPS06-20-085		
20.00-20.99	TOGT100305	M3.0*6.5	T8	GPS06-20-100	M2.5*5	T8
21.00-21.99	TOGT110405	M3.5*9	T15	GPS06-20-100	M2.5*5	T8
22.00-25.00	TOGT120405		T15	GPS06-20-120	M2.5*5	T8
25.01-28.99	TOGT130408		T20	GPS06-20-120	M2.5*5	T8
29.00-29.99	TOGT140510		T20	GPS07-20-120	M2.5*5	T8
30.00-32.02					M2.5*5	T8
					M3.0*6.4	T8
		M4*10				
		M5*11				
		M5*11				



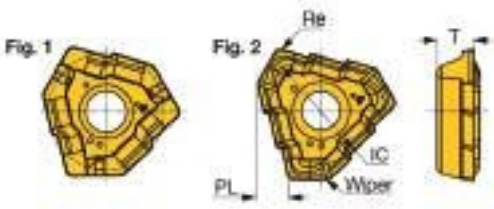
Specification/Item	Size (mm)			
	W	T	L	Re
GPS04-16-045	4.0	1.8	16.0	4.5
GPS04-16-050	4.0	1.8	16.0	5.5
GPS04-16-055	4.0	2.0	16.0	5.5
GPS05-18-060	5.0	2.5	18.0	6.0
GPS05-18-075	5.0	2.5	18.0	7.5
GPS06-20-075	6.0	3.0	20.0	7.5
GPS06-20-085	6.0	3.0	20.0	8.5
GPS06-20-100	6.0	3.0	20.0	10.0
GPS06-20-120	6.0	3.0	20.0	12.0
GPS07-20-120	7.0	3.5	20.0	12.0
GPS08-25-155	8.0	4.5	25.0	15.5
GPS10-30-200	10.0	4.5	30.0	20.0
GPS10-35-200	10.0	6.0	35.0	20.0

GUN DRILL COMPATIBLE INSERT

GUN DRILL COMPATIBLE INSERT



Specification/Item	Size (mm)		
	IC	T	Re
TPMX0902	7.5	2.3	0.8
TPMX1403	8.45	3.5	0.4
TPMX1403	8.45	3.5	0.8
TPMX1704	10.3	4.0	0.4
TPMX1704	10.3	4.0	0.8
TPMX2204	12.3	4.4	1.0
TPMX2405	14.2	5.5	0.4
TPMX2405	14.2	5.5	1.2
TPMX2807	17	7.5	0.8
TPMX2807	17	7.5	1.6

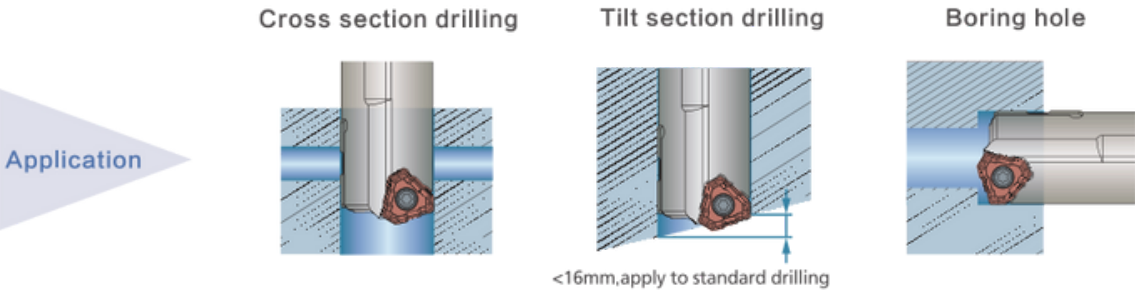


Specification/Item	Size (mm)				
	IC	Re	RL	T	Fig
TOGT070304	7.69	0.4	1.95	2.3	1
TOGT080305	8.55	0.5	2.2	2.8	1
TOGT090305	8.32	0.5	3.0	3.0	2
TOGT100305	9.23	0.5	3.2	3.3	2
TOGT110405	10.4	0.5	3.4	3.8	2
TOGT120405	11.59	0.5	3.6	4.3	2
TOGT130408	12.85	0.8	4.57	4.76	2
TOGT140510	16.85	1.0	5.43	5.26	2

◎ Cutting Condition

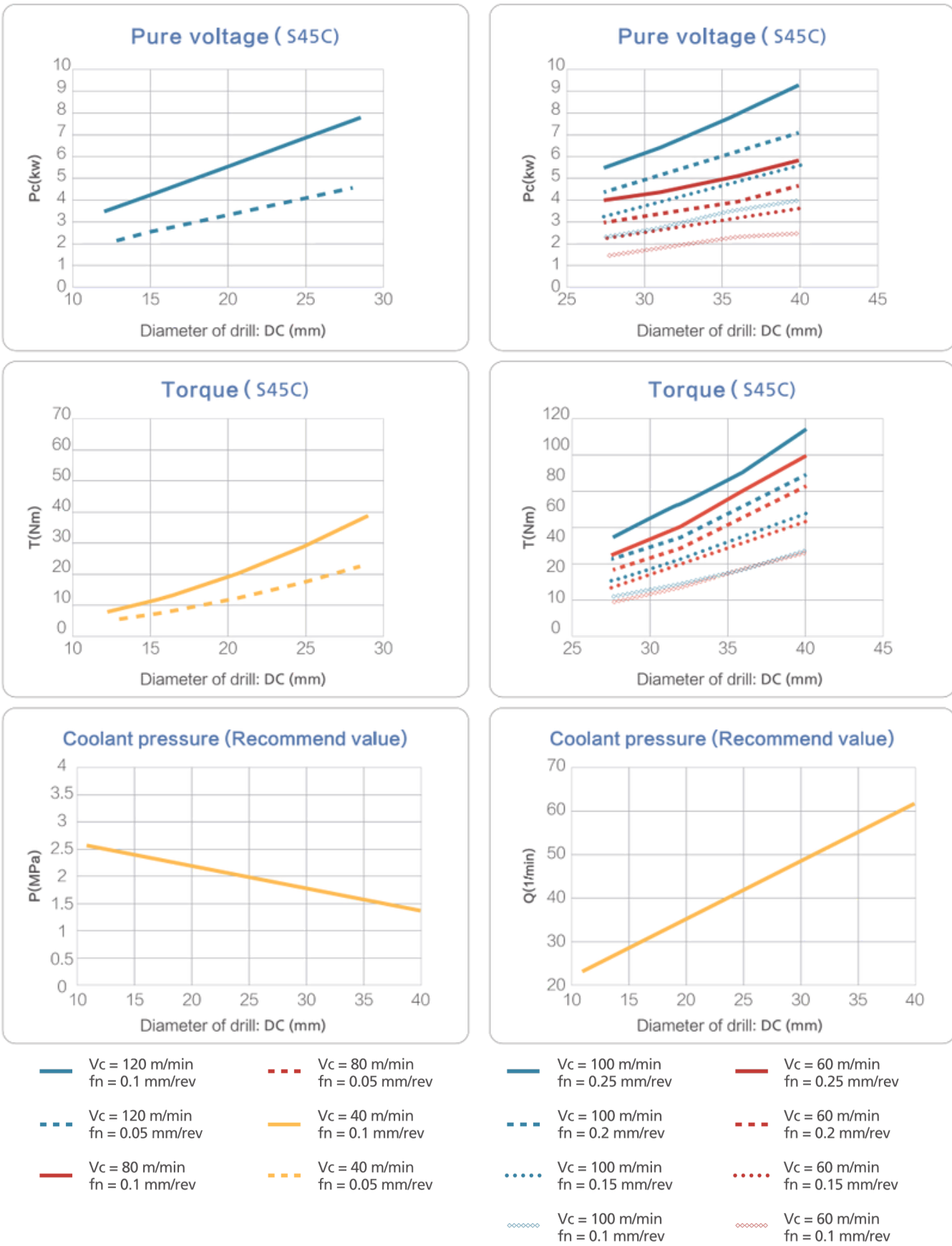
Workpiece material	Cutting speed Vc(m/min)	Feed rate:f(mm/rev)			
		φ 12-φ13.99	φ14-φ18	φ18.01-φ28	φ 28.01-φ50
Low carbon steel(C<0.3) SS400/St42-1,SM/St52-3, S25C/C25,etc.	50-100	-	0.03-0.1	0.03-0.1	-
	80-140	0.05-0.1	0.05-0.1	0.05-0.1	0.1-0.2
Carbon steel(C>0.3) S45C/C45,S55C/C55etc.	50-100	-	0.03-0.1	0.03-0.12	-
	80-140	0.05-0.1	0.05-0.16	0.05-0.2	0.1-0.2
Low alloy steel(C<0.3) SCM415,18CrMo4,etc.	50-100	-	0.03-0.1	0.03-0.1	-
	80-140	0.05-0.16	0.05-0.1	0.05-0.1	0.1-0.2
Alloy steel(C>0.3) SCM440/42CrMo4,etc.	50-100	-	0.03-0.1	0.03-0.2	-
	80-120	0.05-0.1	0.05-0.16	0.05-0.2	0.1-0.2
Stainless steel(Austenitic) SUS304/x5CrNi18-9,SUS316/ X5CrNiMo17-12-3,etc.	50-100	-	0.03-0.06	0.03-0.06	-
	60-100	0.05-0.1	0.05-0.1	0.05-0.1	0.1-0.15
Stainless steel(Martensitic,ferritic) SUS430/X6Cr17,SUS416/ X12CrS13,etc.	50-100	-	0.03-0.06	0.03-0.06	-
	60-100	0.05-0.1	0.05-0.1	0.05-0.1	0.1-0.15
Stainless steel(Precipitated) SUS630/X5CrNiCuNb16-4,etc.	50-100	-	0.03-0.06	0.03-0.06	-
	60-100	0.05-0.1	0.05-0.1	0.05-0.1	0.1-0.3
Grey cast iron FC250/250-2,etc.	50-100	-	0.03-0.15	0.05-0.18	-
	80-140	0.05-0.25	0.05-0.25	0.05-0.3	0.1-0.3
Nodular cast iron FCD700/700-2,etc.	50-100	-	0.03-0.15	0.05-0.18	-
	80-160	-	0.03-0.15	0.03-0.15	-
Aluminium alloy	100-200	0.05-0.2	0.03-0.15	0.03-0.15	0.1-0.25
	20-50	-	0.05-0.2	0.05-0.2	-
Heat resistant alloy Inconel 718, etc.	20-50	0.04-0.08	0.03-0.06	0.03-0.08	0.06-0.13
	30-160	-	0.04-0.08	0.04-0.1	-
Titanium alloy TI-6AL-4V, etc.	30-60	0.05-0.13	0.03-0.1	0.03-0.12	0.1-0.18
	40-100	-	0.05-0.13	0.05-0.15	-
Quenching steel ≥40HRC	50-100	0.04-0.08	0.03-0.08	0.03-0.08	0.06-0.13
	-	-	0.04-0.08	0.04-0.1	-

Feed Rate (fmm/rec)	0.03-0.05	0.03-0.05	0.1-0.5
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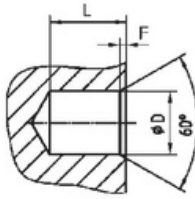


- While processing cross and tilt hole drilling, make sure guide pad attach to workpiece inner wall
- Prepare a guiding hole before processing boring a deep hole

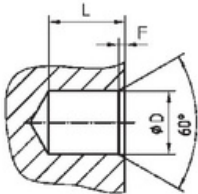
◎ Spindle Power And Coolant Pressure



◎ Guiding Hole Dimension For The Brazed Gun Drill

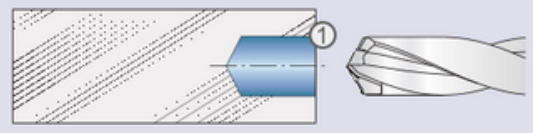
Diameter range	Diameter of drill	Diameter of guiding hole	Contrast of the guiding hole and drilling depth							
			LxD Drilling depth	Guiding hole depth						
				Φ1.805 -4.000	Φ4.001 -8.500	Φ8.501 -12.000	Φ12.001 -20.999	Φ21.000 -30.999	Φ31.000 -40.999	Φ41.000 -55.000
	1.85mm - 4.00mm	+0.005 to +0.010	ap.10xD	2.0xD	1.0xD	1.0xD	1.0xD	1xD	1xD	1xD
	4.01mm - 12.00mm	+0.010 to +0.020	ap.20xD	3.0xD	1.5xD	1.5xD	1.5xD			
	12.01mm - 50.00mm	+0.015 to +0.040	ap.25xD	4.0xD	2.0xD	2.0xD	1.5xD			
			ap.30xD	6.0xD	3.0xD	3.0xD	1.5xD			
			ap.35xD	30mm	35mm	3.0xD	1.5xD			
			ap.40xD	30mm	35mm	3.0xD	1.5xD			

◎ Solid Carbide Gun Drill Guiding Hole Dimension

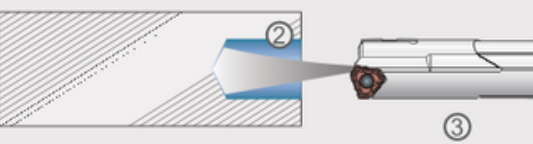
Diameter range	Diameter of drill	Diameter of guiding hole	Contrast of the guiding hole and drilling depth				
			LxD Drilling depth	Guiding hole depth			
				Φ0.500-1.599	Φ1.600-3.999	Φ4.000-6.999	Φ7.000-12.000
	0.500mm - 4.000mm	+0.005 to +0.010	ap.20xD	2.0xD	2.0xD	2.0xD	2.5xD
	4.001mm - 12.000mm	+0.010 to +0.020	ap.30xD		3.0xD	3.0xD	3.5xD
			ap.40xD		4.0xD	4.0xD	40mm
			ap.50xD	6.0xD	6.0xD	35mm	
			ap.60xD		30mm		
			> 40xD				

◎ Clip Type Gun Drill Apply On CNC Machine And Lathe

For the sake of good performance, please follow the instruction



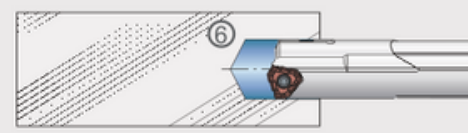
① Prepare a pilot hole
Hole tolerance: +0.01-+0.1mm
Depth of hole: H=15mm



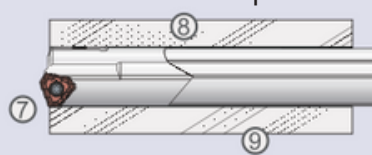
② Turn on coolant
③ Drill slowly into the pilot hole
Revolving speed: n=50-100min-1
Feed rate: Vf=100-300mm/min
Notice: do not enter the pilot hole at high speed



④ Stop at 10mm after enter the pilot hole
⑤ Start process at normal revolving speed



⑥ Start axial moving at 10-20mm while entering the hole at feed rate 80% of the program speed.
After drilling depth more than 20mm, drilling speed trends toward to 100% of the program speed.

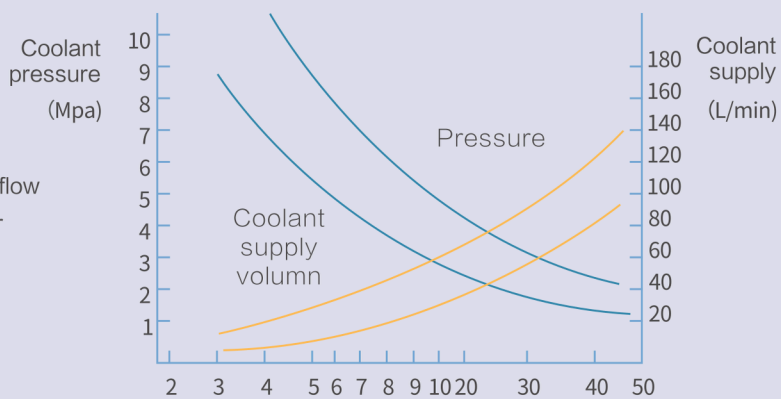


Stop
⑦ Drilling through hole: Continuous drilling till the drill tip thrust 5mm out of the hole.
⑧ Stop spindle revolving and turn off the coolant.
⑨ Withdraw the drill tip.

TECHNICAL PARAMETERS

1

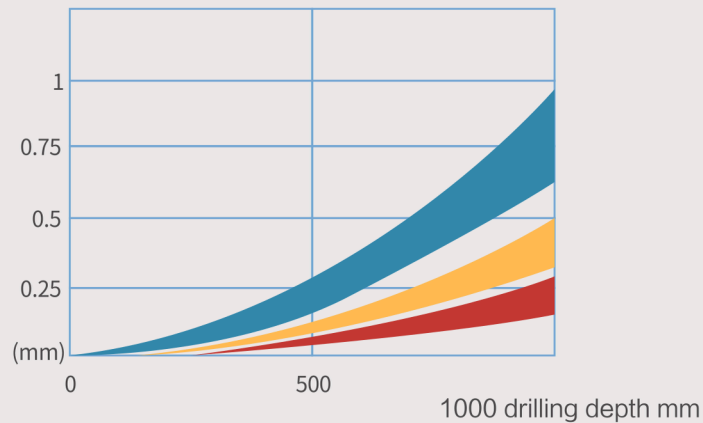
Coolant pressure, coolant flow rate varies on the diameter of the gun drill. (horizontal axis)



2

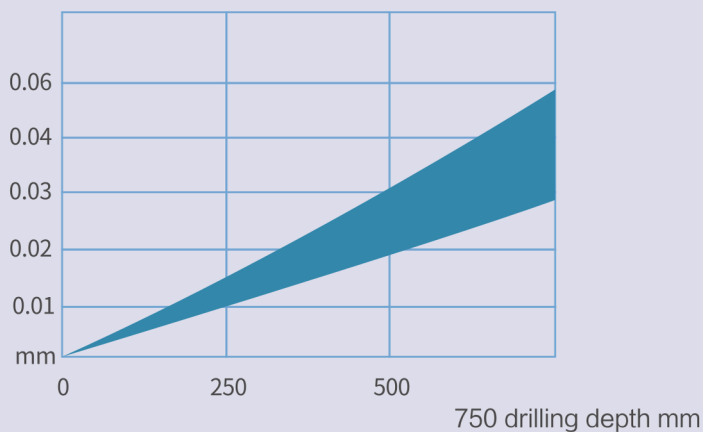
Drilling deviation (vertical axis) varies with the drilling depth (horizontal axis)

- Tools revolving, workpiece standstill
- Tools standstill, workpiece revolving
- Tools revolving, workpiece anti-revolving



3

Straightness (vertical axis) varies with drilling depth (horizontal axis)

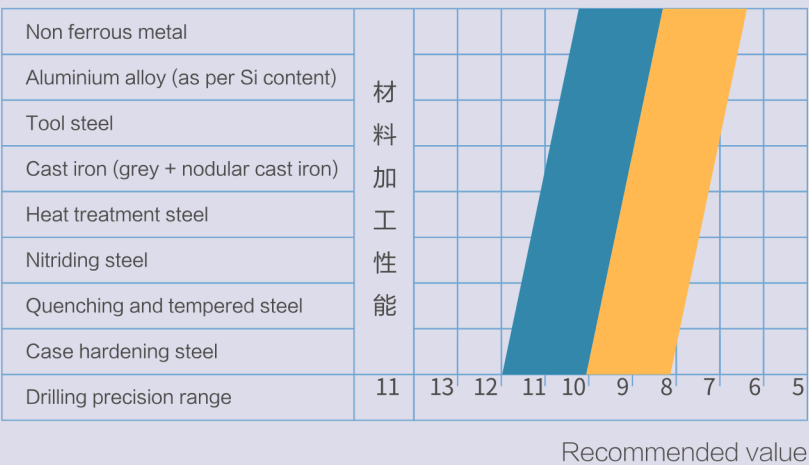


TECHNICAL PARAMETERS

4

Single flute tolerance

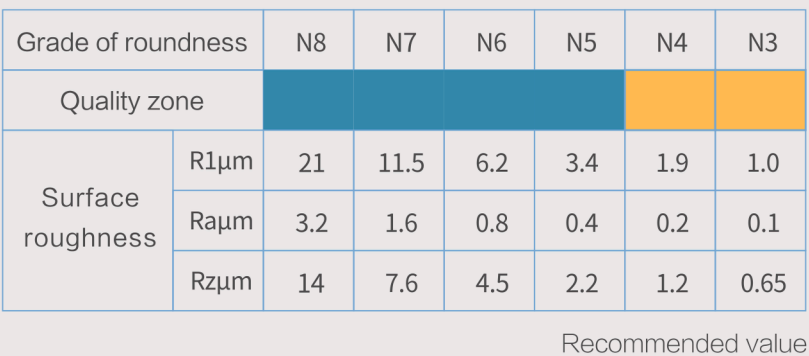
- Normal condition
- Good condition



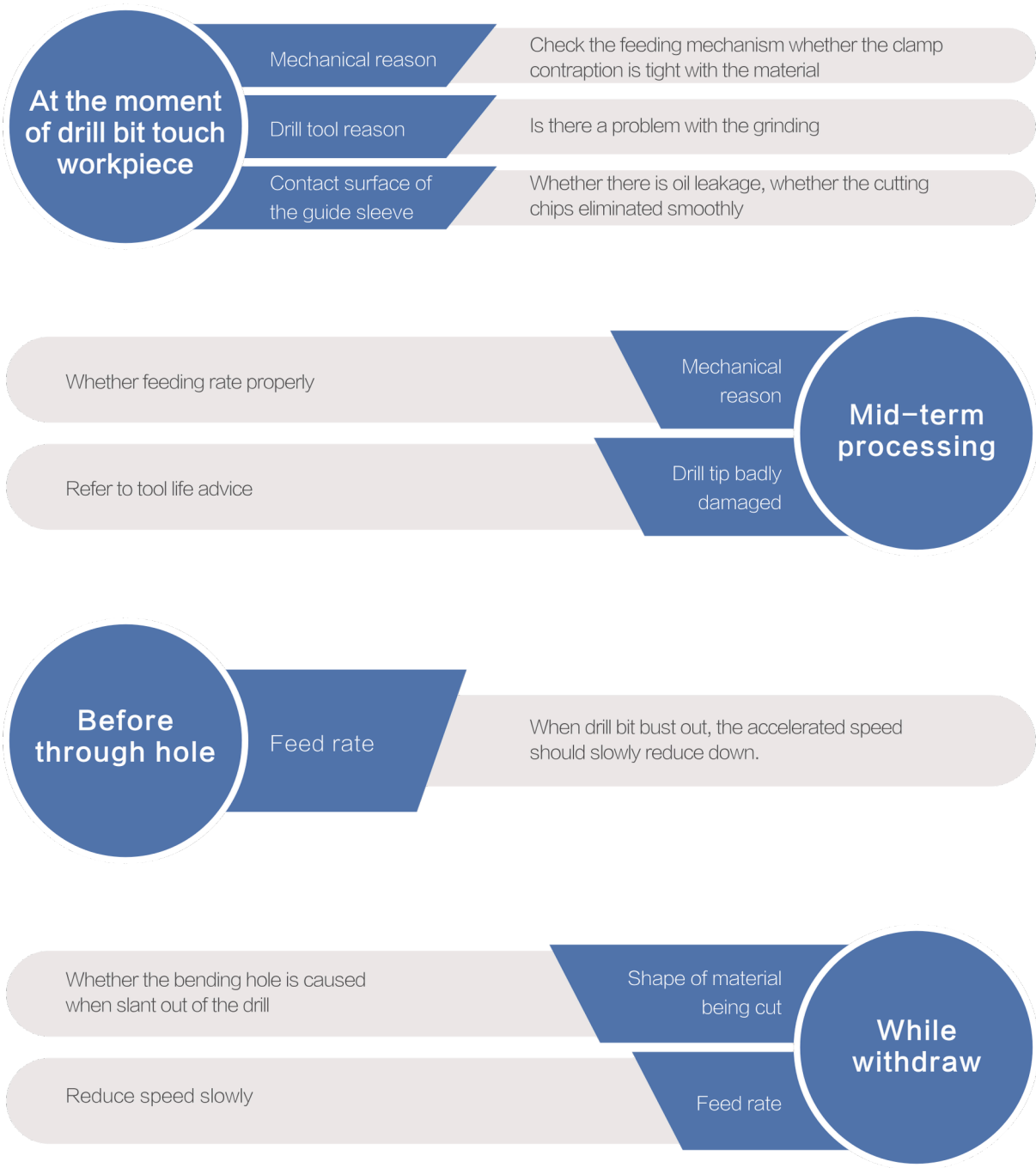
5

Surface quality

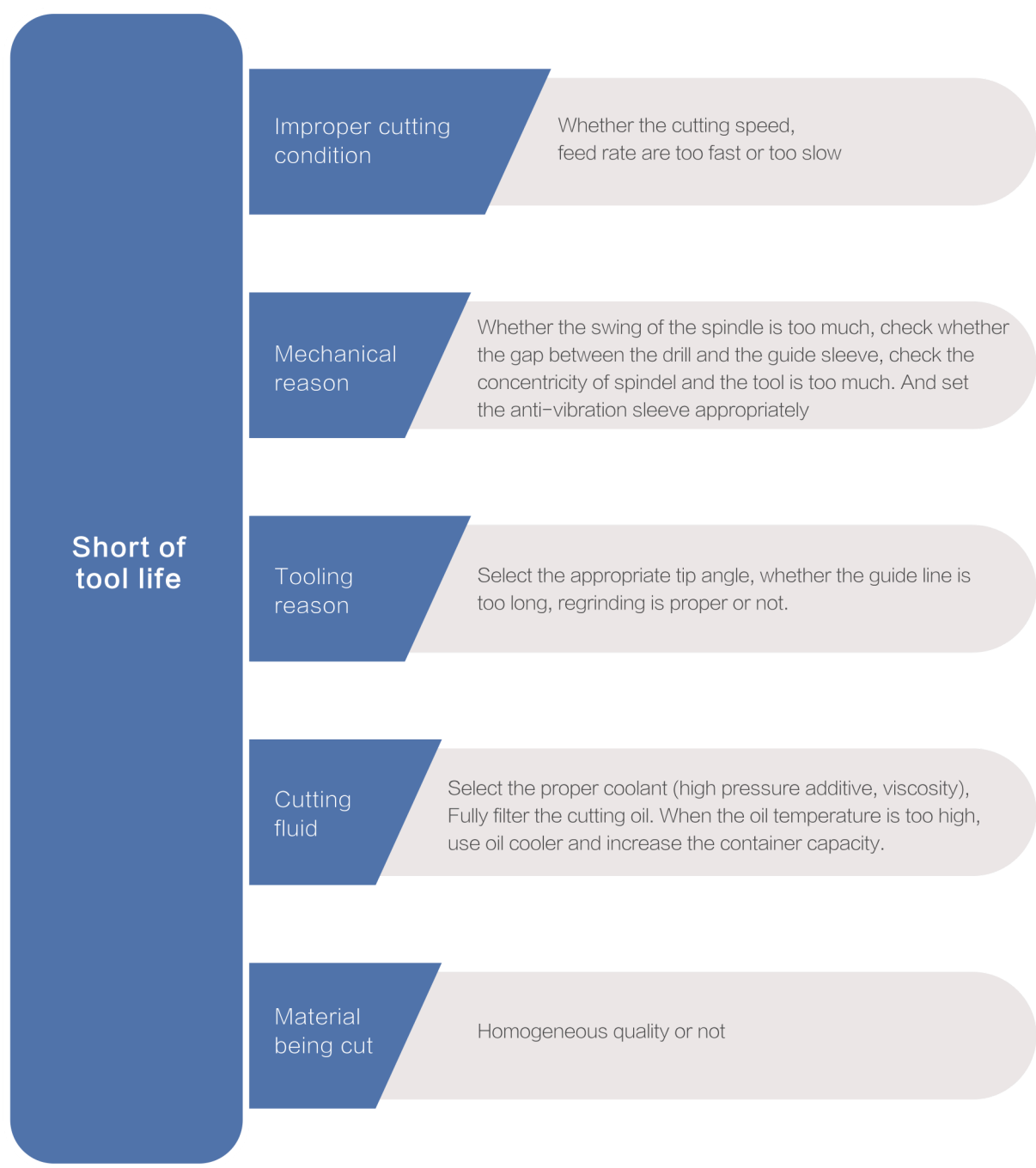
- Normal condition
- Good condition



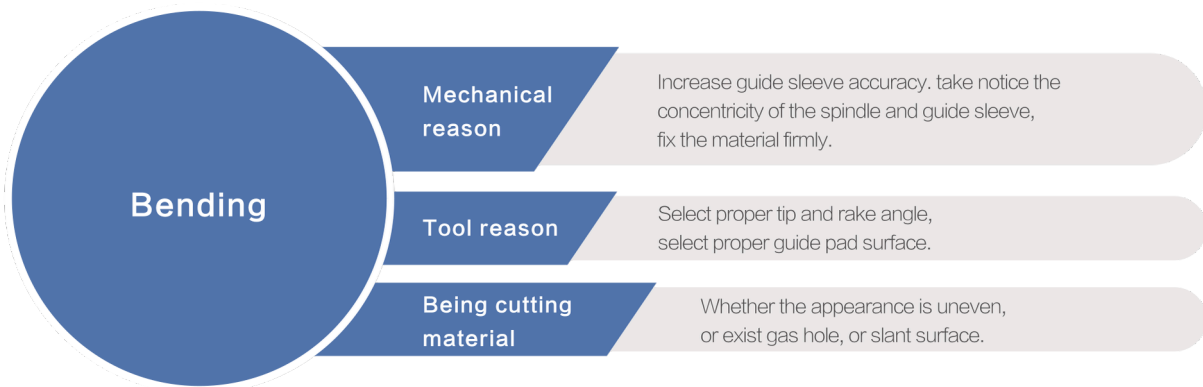
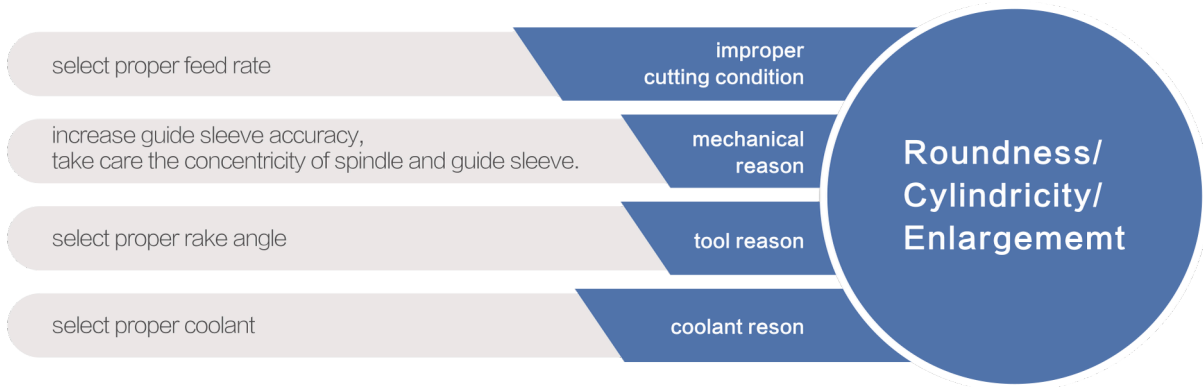
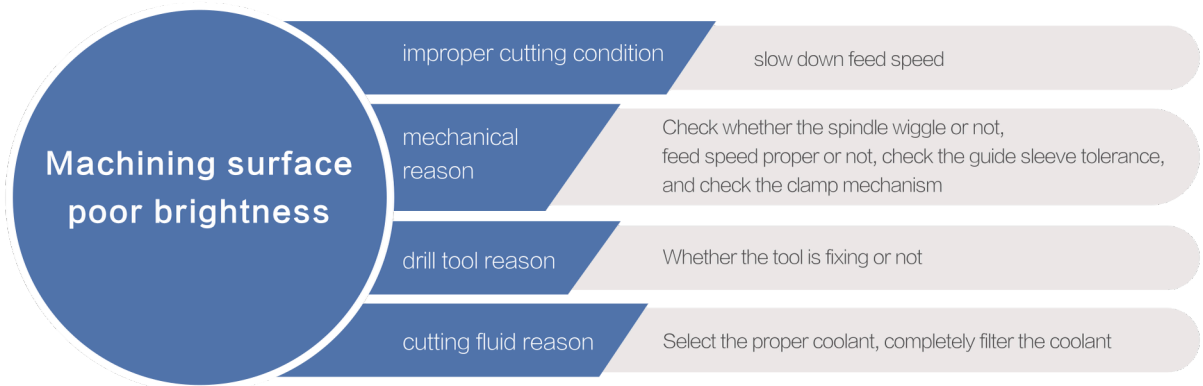
◎ Wear And Broken Problem



◎ Tooling Life



◎ Machining Accuracy



◎ Cutting Solution

