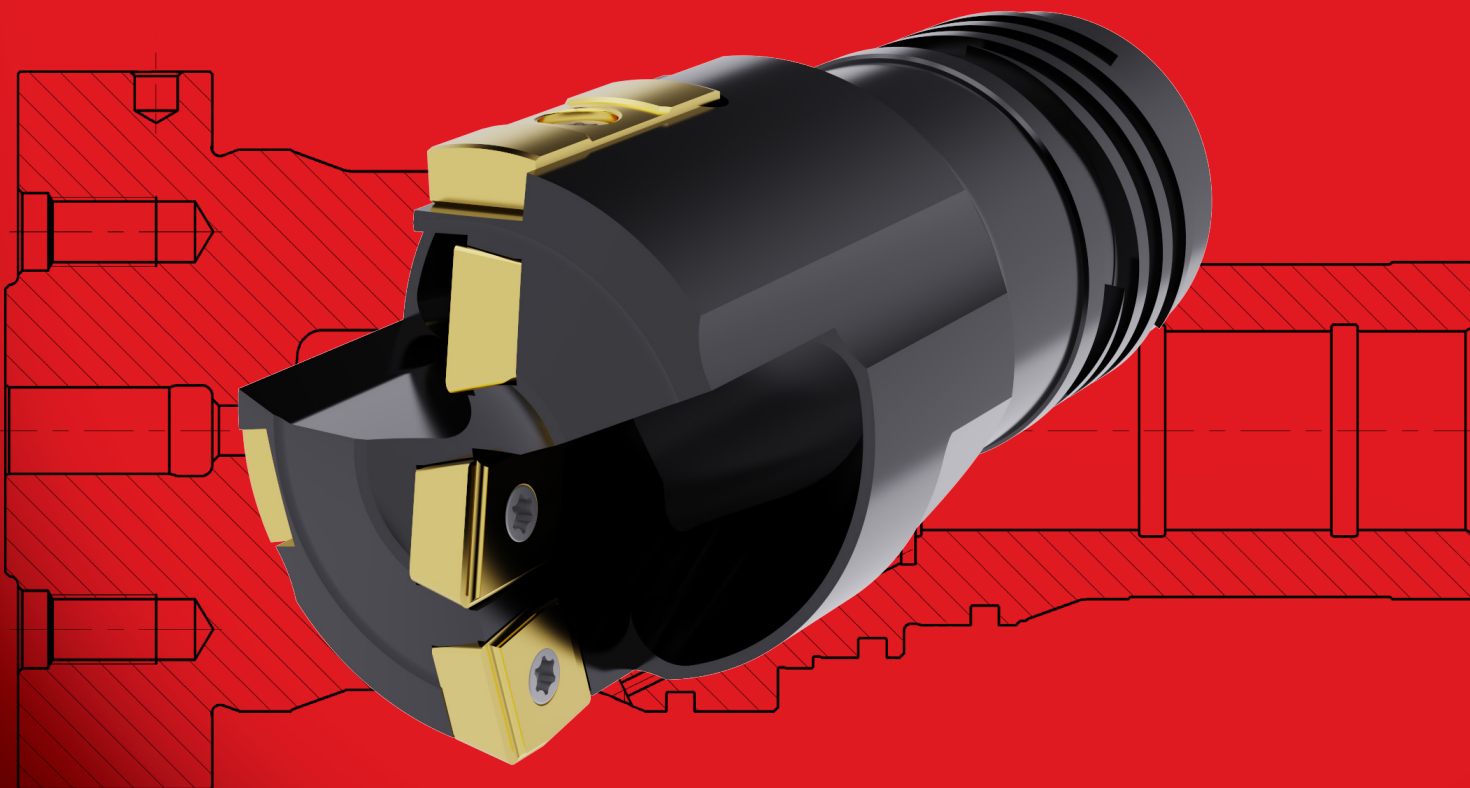




DIRECTDEX SOLID DRILLING TOOLS

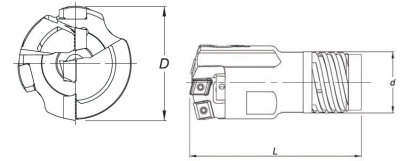
Diameter range 25.00 mm – 65.00 mm (0.984 in – 2.559 in)



DirectDex Single Tube System

Diameter Range: 25.00 mm – 65.00 mm (0.984 in – 2.559 in)

Drill Head Part Numbering Code Example: Metric: DDSM02500M403 Imperial: DDS09840M403



DD		S		M02500		M		4		03	
DirectDex Prefix		Fluid Introduction		Bore Size		Connection Type		Thread Starts		Connection Size	
Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code
DirectDex	DD	Single-Tube	S	Size in Metric ###.## mm	M####	Male/ External	M	Four-Start	4	25.00 - 26.40 mm .984 - 1.039 in	03
				Size in Imperial ##.### in	#####						
				Example: 25.00 mm (1.000")	M02500 (01000)	Female/ Internal	F	Single-Start	1		

Connection Size Numbering Code

Bore Size Range	25.00 - 26.40 mm	26.41 - 28.70 mm	28.71 - 31.00 mm	31.01 - 33.30 mm	33.31 - 36.20 mm	36.21 - 39.60 mm	39.61 - 43.00 mm	43.01 - 47.00 mm	47.01 - 51.70 mm	51.71 - 56.20 mm	56.21 - 65.00 mm	60.61-65.00 mm
	.984 - 1.039 in	1.040 - 1.129 in	1.130 - 1.220 in	1.221 - 1.311 in	1.312 - 1.425 in	1.426 - 1.559 in	1.560 - 1.693 in	1.694 - 1.850 in	1.851 - 2.035 in	2.036 - 2.212 in	2.213 - 2.559 in	2.386-2.554 in
Code	03	04	05	06	07	08	09	10	11	12	13	13E

Drill		Item Code		Drill Tube		Dimensions		Item Code			
'D'						Tube OD 'd'		L		Peripheral	
										Center	
										Intermediate	
										Guide Pad	
25.00 - 26.40 mm		DDSM#####M403		03		22 mm	73 mm	BTDDN06PGU1TE 800-06 03 08H-P-G	BTDDN05CGU1TE 800-05 03 08M-C-G	BTDDN05IGU1TE 800-05 03 08M-I-G	GPS0618DDTE 800-06A
0.984 - 1.039 in		DDS#####M403				0.866 in	2.874 in				
26.41 - 28.70 mm		DDSM#####M404		04		24 mm	74 mm	BTDDN06PGU1TE 800-06 03 08H-P-G	BTDDN05CGU1TE 800-05 03 08M-C-G	BTDDN05IGU1TE 800-05 03 08M-I-G	GPS0618DDTE 800-06A
1.04 - 1.129 in		DDS#####M404				0.945 in	2.913 in				
28.71 - 31.00 mm		DDSM#####M405		05		26 mm	75 mm	BTDDN06PGU1TE 800-06 03 08H-P-G	BTDDN06CGU1TE 800-06 T3 08M-C-G	BTDDN05IGU1TE 800-05 03 08M-I-G	GPS0618DDTE 800-06A
1.130 - 1.220 in		DDS#####M405				1.024 in	2.953 in				
31.01 - 33.30 mm		DDSM#####M406		06		28 mm	76 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	BTDDN06CGU1TE 800-06 T3 08M-C-G	BTDDN06IGU1TE 800-06 T3 08M-I-G	GPS0720DDTE 800-07A
1.221 - 1.311 in		DDS#####M406				1.102 in	2.992 in				
33.31-33.99 mm		DDSM#####M407		07		30 mm	77 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	BTDDN06CGU1TE 800-06 T3 08M-C-G	BTDDN06IGU1TE 800-06 T3 08M-I-G	GPS0720DDTE 800-07A
1.312 - 1.338 in		DDS#####M407				1.181 in	3.031 in				
34.00-34.99 mm		DDSM#####M407		07		30 mm	77 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	BTDDN08CGU1TE 800-08 T3 08M-C-G	BTDDN06IGU1TE 800-06 T3 08M-I-G	GPS0720DDTE 800-07A
1.339 - 1.377 in		DDS#####M407				1.181 in	3.031 in				
35.00-36.20 mm		DDSM#####M407		07		30.0 mm	77 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	BTDDN08CGU1TE 800-08 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS0720DDTE 800-07A
1.378-1.425 in		DDS#####M407				1.181 in	3.031 in				
36.21-38.99 mm		DDSM#####M408		08		33 mm	89 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	BTDDN08CGU1TE 800-08 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS0720DDTE 800-07A
1.426-1.535 in		DDS#####M408				1.299 in	3.504 in				
39.00-39.60 mm		DDSM#####M408		08		33.0 mm	89 mm	BTDDN09PGU1TE 800-09 T3 08H-P-G	BTDDN08CGU1TE 800-08 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS0720DDTE 800-07A
1.536-1.559 in		DDS#####M408				1.299 in	3.504 in				
39.61-43.00 mm		DDSM#####M409		09		36.0 mm	93 mm	BTDDN09PGU1TE 800-09 T3 08H-P-G	BTDDN08CGU1TE 800-08 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS0825DDTE 800-08A
1.560-1.692 in		DDS#####M409				1.417 in	3.661 in				
43.01-47.00 mm		DDSM#####M410		10		39 mm	95 mm	BTDDN09PGU1TE 800-09 T3 08H-P-G	BTDDN10CGU1TE 800 10 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS0825DDTE 800-08A
1.693-1.850 in		DDS#####M410				1.535 in	3.740 in				
47.01-49.99 mm		DDSM#####M411		11		43 mm	102 mm	BTDDN09PGU1TE 800-09 T3 08H-P-G	BTDDN12CGU1TE 800-12 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS1030DDTE 800-10A
1.851-1.968 in		DDS#####M411				1.692 in	4.016 in				
50.00-51.70 mm		DDSM#####M411		11		43 mm	102 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	BTDDN10CGU1TE 800-10 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS1030DDTE 800-10A
1.969-2.035 in		DDS#####M411				1.692 in	4.016 in				
51.71-54.99 mm		DDSM#####M412		12		47 mm	110 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	BTDDN10CGU1TE 800-10 T3 08M-C-G	BTDDN08IGU1TE 800-08 T3 08M-I-G	GPS1030DDTE 800-10A
2.036-2.165 in		DDS#####M412				1.850 in	4.331 in				
55.00-56.20 mm		DDSM#####M412		12		47.0 mm	110 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	BTDDN10CGU1TE 800-10 T3 08M-C-G	BTDDN12IGU1TE 800-12 T3 08M-I-G	GPS1235DDTE 800-12A
2.166-2.212 in		DDS##### M412				1.850 in	4.331 in				
56.21-57.99 mm		DDSM#####M413		13		51 mm	115 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	BTDDN10CGU1TE 800-10 T3 08M-C-G	BTDDN12IGU1TE 800-12 T3 08M-I-G	GPS1235DDTE 800-12A
2.213-2.283 in		DDS#####M413				2.008 in	4.528 in				
58.00-65.00 mm		DDSM#####M413		13		51 mm	115 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	BTDDN12CGU1TE 800-12 T3 08M-C-G	BTDDN12IGU1TE 800-12 T3 08M-I-G	GPS1235DDTE 800-12A
2.284-2.559 in		DDS#####M413				2.008 in	4.528 in				

Sandvik Coromant part number shown in Red

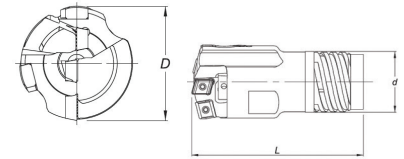
Sunnen DirectDex Inserts are available with both "G" and "L" chip breakers.

Order Example for "L" chip breaker = 800-06 03 08H-P-L



DirectDex Double Tube System

Diameter Range: 25.00 mm – 65.00 mm (0.984 in – 2.559 in)



Drill Head Part Numbering Code Example: Metric: DDDM02500M403 Imperial: DDD09840M403

DD		D		M02500		M		4		03	
DirectDex Prefix		Fluid Introduction		Bore Size (x#####)		Connection Type		Thread Starts		Connection Size	
Description	Code	Description	Code	Description	Code	Description	Code	Description	Code	Description	Code
DirectDex	DD	Double-Tube	D	Size in Metric (###.## mm)	M#####	Male/ External	M	Four-Start	4	25.00 - 26.40 mm .984 - 1.039 in	03
				Size in Imperial ##.### in	#####						
				Example: 25.00 mm (1.000")	M02500 (01000)	Female/ Internal	F	Single-Start	1		

Connection Size Numbering Code

Bore Size Range	25.00 - 26.40 mm	26.41 - 28.70 mm	28.71 - 31.00 mm	31.01 - 33.30 mm	33.31 - 36.20 mm	36.21 - 39.60 mm	39.61 - 43.00 mm	43.01 - 47.00 mm	47.01 - 51.70 mm	51.71 - 56.20 mm	56.21 - 65.00 mm
	.984 - 1.039 in	1.040 - 1.129 in	1.130 - 1.220 in	1.221 - 1.311 in	1.312 - 1.425 in	1.426 - 1.559 in	1.560 - 1.693 in	1.694 - 1.850 in	1.851 - 2.035 in	2.036 - 2.212 in	2.213 - 2.559 in
Code	03	04	05	06	07	08	09	10	11	12	13

Drill	Item Code	Outer Drill Tube	Dimensions		Item Code			
'D'			Tube OD 'd'	L	Peripheral	Center	Intermediate	Guide Pad
25.00 - 26.40 mm	DDDM#####M403	03	23.50 mm	74 mm	BTDDN06PGU1TE	BTDDN05CGU1TE	BTDDN05IGU1TE	GPS0618DDTE
0.984 - 1.039 in	DDD#####M403		0.925 in	2.913 in	800-06 03 08H-P-G	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06A
26.41 - 28.70 mm	DDDM#####M404	04	26 mm	75 mm	BTDDN06PGU1TE	BTDDN05CGU1TE	BTDDN05IGU1TE	GPS0618DDTE
1.04 - 1.129 in	DDD#####M404		1.024 in	2.953 mm	800-06 03 08H-P-G	800-05 03 08M-C-G	800-05 03 08M-I-G	800-06A
28.71 - 31.00 mm	DDDM#####M405	05	28 mm	76 mm	BTDDN06PGU1TE	BTDDN06CGU1TE	BTDDN05IGU1TE	GPS0618DDTE
1.130 - 1.220 in	DDD#####M405		1.102 in	2.992 in	800-06 03 08H-P-G	800-06 T3 08M-C-G	800-05 03 08M-I-G	800-06A
31.00 - 33.30 mm	DDDM#####M406	06	30.5 mm	77 mm	BTDDN08PGU1TE	BTDDN06CGU1TE	BTDDN06IGU1TE	GPS0720DDTE
1.220 - 1.311 in	DDD#####M406		1.201 in	3.031 in	800-08 T3 08H-P-G	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-07A
33.31 - 33.99 mm	DDDM#####M407	07	33 mm	89 mm	BTDDN08PGU1TE	BTDDN06CGU1TE	BTDDN06IGU1TE	GPS0720DDTE
1.311 - 1.338 in	DDD#####M407		1.299 in	3.504 in	800-08 T3 08H-P-G	800-06 T3 08M-C-G	800-06 T3 08M-I-G	800-07A
34.00-34.99 mm	DDDM#####M407	07	33 mm	89 mm	BTDDN08PGU1TE	BTDDN08CGU1TE	BTDDN06IGU1TE	GPS0720DDTE
1.339 - 1.377 in	DDD#####M407		1.299 in	3.504 in	800-08 T3 08H-P-G	800-08 T3 08M-C-G	800-06 T3 08M-I-G	800-07A
35.00 – 36.20 mm	DDDM#####M407	07	33 mm	89 mm	BTDDN08PGU1TE	BTDDN08CGU1TE	BTDDN08GU1TE	GPS0720DDTE
1.378 -1.425 mm	DDD#####M407		1.299 in	3.504 in	800-08 T3 08H-P-G	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-07A
36.21 - 38.99 mm	DDDM#####M408	08	35.50 mm	93 mm	BTDDN08PGU1TE	BTDDN08CGU1TE	BTDDN08IGU1TE	GPS0720DDTE
1.426 - 1.535 in	DDD#####M408		1.398 in	3.661 in	800-08 T3 08H-P-G	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-07A
39.00 - 39.60 mm	DDDM#####M408	08	35.50 mm	93 mm	BTDDN09PGU1TE	BTDDN08CGU1TE	BTDDN08IGU1TE	GPS0720DDTE
1.536 - 1.559 in	DDD#####M408		1.398 in	3.661 in	800-09 T3 08H-P-G	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-07A
39.61 - 43.00 mm	DDDM#####M409	09	39 mm	95 mm	BTDDN09PGU1TE	BTDDN08CGU1TE	BTDDN08IGU1TE	GPS0825DDTE
1.559 - 1.692 in	DDD#####M409		1.535 in	3.740 in	800-09 T3 08H-P-G	800-08 T3 08M-C-G	800-08 T3 08M-I-G	800-08A
43.01-47.00 mm	DDDM#####M410	10	42.5 mm	102 mm	BTDDN09PGU1TE	BTDDN10CGU1TE	BTDDN08IGU1TE	GPS0825DDTE
1.693 - 1.850 in	DDD#####M410		1.673 in	4.016 in	800-09 T3 08H-P-G	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-08A
47.01 - 49.99 mm	DDDM#####M411	11	46.5 mm	110 mm	BTDDN09PGU1TE	BTDDN12CGU1TE	BTDDN08IGU1TE	GPS1030DDTE
1.851 - 1.968 in	DDD#####M411		1.831 in	4.331 in	800-09 T3 08H-P-G	800-12 T3 08M-C-G	800-08 T3 08M-I-G	800-10A
50.00 - 51.70 mm	DDDM#####M411	11	46.5 mm	110 mm	BTDDN11PGU1TE	BTDDN10CGU1TE	BTDDN08IGU1TE	GPS1030DDTE
1.968 - 2.035 in	DDD#####M411		1.831 in	4.331 in	800-11 T3 08H-P-G	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-10A
51.71 - 54.99 mm	DDDM#####M412	12	51 mm	115 mm	BTDDN11PGU1TE	BTDDN10CGU1TE	BTDDN08IGU1TE	GPS1030DDTE
2.036 - 2.165 in	DDD#####M412		2.008 in	4.528 in	800-11 T3 08H-P-G	800-10 T3 08M-C-G	800-08 T3 08M-I-G	800-10A
55.00-56.20 mm	DDDM#####M412	12	51 mm	115 mm	BTDDN11PGU1TE	BTDDN10CGU1TE	BTDDN12IGU1TE	GPS1235DDTE
2.166 - 2.211 in	DDD#####M412		2.008 in	4.528 in	800-11 T3 08H-P-G	800-10 T3 08M-C-G	800-12 T3 08M-I-G	800-12A
56.21 - 57.99 mm	DDDM#####M413	13	55.5 mm	115 mm	BTDDN11PGU1TE	BTDDN10CGU1TE	BTDDN12IGU1TE	GPS1235DDTE
2.212 - 2.283 in	DDD#####M413		2.185 in	4.528 in	800-11 T3 08H-P-G	800-10 T3 08M-C-G	800-12 T3 08M-I-G	800-12A
58.00-65.00 mm	DDDM#####M413	13	55.5 mm	115 mm	BTDDN11PGU1TE	BTDDN12CGU1TE	BTDDN12IGU1TE	GPS1235DDTE
2.284-2.559 in	DDD#####M413		2.185 in	4.528 in	800-11 T3 08H-P-G	800-12 T3 08M-C-G	800-12 T3 08M-I-G	800-12A

SDT Drill Tubes



D		DT		803		L01600		T1	
Tube Type				Connection Size		Tube Length		Threads	
Description	Code	Description	Code	Description	Code	Description	Code	Description	Code
Single Tube	S	Drill Tube	DT	Sandvik # (Female 4-start thread)	803	Length in Metric (##### mm)	L#####	Threaded One End	T1
Double Tube (Ejector)	D			BTA Heller # (Male 1-start thread)	03M			Threaded Both Ends	T2
				SPECIAL	S##			Flange	FL
								Special	S## S01, S02, S03, S...

NOTES: Sandvik 794 - 798; 2-Start thread
Sandvik 800 - 813; inner tube 30mm longer than outer tube
Sandvik 814 - 820; inner tube 190mm longer than outer tube
Sandvik 821-825; inner tube 220mm longer than outer tube
Sandvik Double tubes 814 and larger, threads on both ends, no inner tube flange
Other BTA Heller Connections, not common, doesn't need to be in chart; A, B, C, G (GH), M, W (HW)

STS Drill Tube (threaded one end)

Sunnen #	Sandvik Ref.	Connection Size	Tube OD (mm)	Tube ID (mm)	Tube OD (in)	Tube ID (in)
SDT-794-L#####-T1	420.5-794-L#####	794	11.0	7.0	0.433	0.276
SDT-795-L#####-T1	420.5-795-L#####	795	12.0	8.0	0.472	0.315
SDT-796-L#####-T1	420.5-796-L#####	796	13.0	8.5	0.512	0.335
SDT-797-L#####-T1	420.5-797-L#####	797	14.0	9.0	0.551	0.354
SDT-798-L#####-T1	420.5-798-L#####	798	15.0	10.0	0.591	0.394
SDT-799-L#####-T1	420.5-799-L#####	799	16.0	10.5	0.630	0.413
SDT-800-L#####-T1	420.5-800-L#####	800	17.0	11.5	0.669	0.453
SDT-801-L#####-T1	420.5-801-L#####	801	18.0	12.0	0.709	0.472
SDT-802-L#####-T1	420.5-802-L#####	802	20.0	13.0	0.787	0.512
SDT-803-L#####-T1	420.5-803-L#####	803	22.0	14.0	0.866	0.551
SDT-804-L#####-T1	420.5-804-L#####	804	24.0	15.5	0.945	0.610
SDT-805-L#####-T1	420.5-805-L#####	805	26.0	17.0	1.024	0.669
SDT-806-L#####-T1	420.5-806-L#####	806	28.0	18.5	1.102	0.728
SDT-807-L#####-T1	420.5-807-L#####	807	30.0	20.0	1.181	0.787
SDT-808-L#####-T1	420.5-808-L#####	808	33.0	23.0	1.299	0.906
SDT-809-L#####-T1	420.5-809-L#####	809	36.0	25.5	1.417	0.984
SDT-810-L#####-T1	420.5-810-L#####	810	39.0	28.0	1.535	1.102
SDT-811-L#####-T1	420.5-811-L#####	811	43.0	31.0	1.693	1.220
SDT-812-L#####-T1	420.5-812-L#####	812	47.0	35.0	1.850	1.378
SDT-813-L#####-T1	420.5-813-L#####	813	51.0	39.0	2.008	1.535
SDT-813E-L#####-T1	420.5-813E-L#####	813E	56.0	39.0	2.205	1.614

DDT Drill Tubes

DTS Drill Tube Outer (threaded one end)

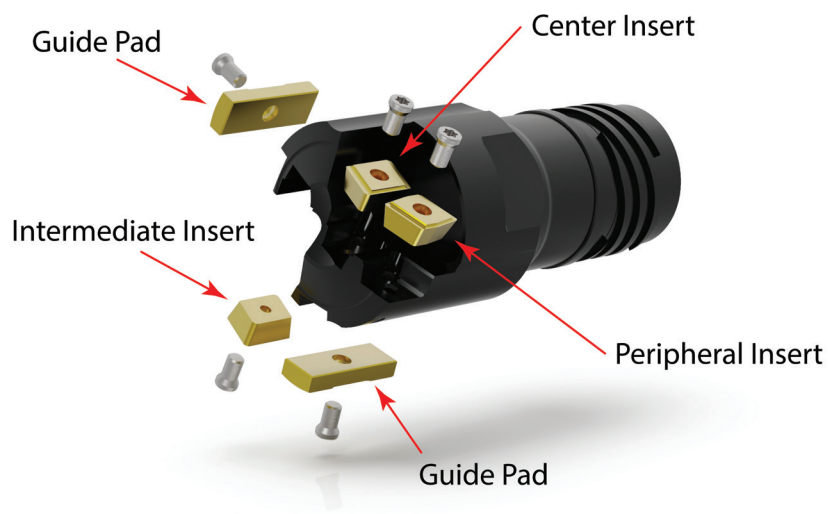


Sunnen #	Sandvik Ref.	Outer Tube	Drilled Hole Diameter (mm)	Drilled Hole Diameter (in)	"Tube OD (mm)"	"Tube ID (mm)"	"Tube OD (in)"	"Tube ID (in)"
DDT-800-L#####-T1	424.2-800-L####	800	18.4 - 20.0	0.724 - 0.787	18.0	12.0	0.709	0.472
DDT-801-L#####-T1	424.2-801-L####	801	20.0 - 21.8	0.788 - 0.858	19.5	14.0	0.768	0.551
DDT-802-L#####-T1	424.2-802-L####	802	21.8 - 24.1	0.859 - 0.948	21.5	15.0	0.846	0.591
DDT-803-L#####-T1	424.2-803-L####	803	24.1 - 26.4	0.949 - 1.039	23.5	16.0	0.925	0.630
DDT-804-L#####-T1	424.2-804-L####	804	26.4 - 28.7	1.040 - 1.130	26.0	18.0	1.024	0.709
DDT-805-L#####-T1	424.2-805-L####	805	28.7 - 31.0	1.131 - 1.220	28.0	20.0	1.102	0.787
DDT-806-L#####-T1	424.2-806-L####	806	31.0 - 33.3	1.221 - 1.311	30.5	22.0	1.201	0.866
DDT-807-L#####-T1	424.2-807-L####	807	33.3 - 36.2	1.312 - 1.425	33.0	24.0	1.299	0.945
DDT-808-L#####-T1	424.2-808-L####	808	36.2 - 39.6	1.426 - 1.559	35.5	26.0	1.398	1.024
DDT-809-L#####-T1	424.2-809-L####	809	39.6 - 43.0	1.560 - 1.692	39.0	29.0	1.535	1.149
DDT-810-L#####-T1	424.2-810-L####	810	43.0 - 47.0	1.693 - 1.850	42.5	32.0	1.673	1.260
DDT-811-L#####-T1	424.2-811-L####	811	47.0 - 51.7	1.851 - 2.035	46.5	35.0	1.831	1.378
DDT-812-L#####-T1	424.2-812-L####	812	51.7 - 56.2	2.036 - 2.212	51.0	39.0	2.008	1.535
DDT-813-L#####-T1	424.2-813-L####	813	56.2 - 65.0	2.213 - 2.559	55.5	43.0	2.185	1.693

DTS Drill Tube Inner

Sunnen #	Sandvik Ref.	Inner Tube	"Tube OD (mm)"	"Tube ID (mm)"	"Tube OD (in)"	"Tube ID (in)"
DDT-850-L#####	424.2-850-L####	850	10.0	9.0	0.394	0.354
DDT-851-L#####	424.2-851-L####	851	12.0	11.0	0.472	0.433
DDT-852-L#####	424.2-852-L####	852	13.0	12.0	0.512	0.472
DDT-853-L#####	424.2-853-L####	853	14.0	13.0	0.551	0.512
DDT-854-L#####	424.2-854-L####	854	16.0	14.0	0.630	0.551
DDT-855-L#####	424.2-855-L####	855	18.0	16.0	0.709	0.630
DDT-856-L#####	424.2-856-L####	856	20.0	18.0	0.787	0.709
DDT-857-L#####	424.2-857-L####	857	22.0	20.0	0.866	0.787
DDT-858-L#####	424.2-858-L####	858	24.0	22.0	0.945	0.866
DDT-859-L#####	424.2-859-L####	859	27.0	25.0	1.063	0.984
DDT-860-L#####	424.2-860-L####	860	30.0	28.0	1.181	1.102
DDT-861-L#####	424.2-861-L####	861	32.0	30.0	1.260	1.181
DDT-862-L#####	424.2-862-L####	862	36.0	34.0	1.417	1.339
DDT-863-L#####	424.2-863-L####	863	40.0	38.0	1.575	1.496

Insert and Guide Pad Sizes



Cutting Diameter Range	Center Insert	Cutting Diameter Range	Intermediate Insert	Cutting Diameter Range	Peripheral Insert	Cutting Diameter Range	Guide Pad
25.00 - 28.70 mm	BTDDN05CGU1TE 800-05 03 08M-C-G	25.00 - 31.00 mm	BTDDN05IGU1TE 800-05 03 08M-I-G	25.00 - 31.00 mm	BTDDN06PGU1TE 800-06 03 08H-P-G	25.00 - 31.00 mm	GPS0618DDTE 800-06A
0.984 - 1.139 in	Screw PHSM1151 5513 020 05	0.984 - 1.220 in	Screw PHSM1151 5513 020 05	0.984 - 1.220 in	Screw PHSM1151 5513 020 05	0.984 - 1.220 in	Screw PHSM1152 5513 020 20
28.71 - 33.99 mm	BTDDN06CGU1TE 800-06 T3 08M-C-G	31.01 - 34.99 mm	BTDDN06IGU1TE 800-06 T3 08M-I-G	31.01 - 38.99 mm	BTDDN08PGU1TE 800-08 T3 08H-P-G	31.01 - 39.60 mm	GPS0720DDTE 800-07A
1.140 - 1.338 in	Screw PHSM1153 5513 020 34	1.221 - 1.378 in	Screw PHSM 1153 5513 020 34	1.221 - 1.535 in	Screw PHSM1153 5513 020 34	1.221 - 1.559 in	Screw PHSM1155 416.1-832
34.00 - 43.00 mm	BTDDN08CGU1TE 800-08 T3 08M-C-G	35.00 - 54.99 mm	BTDDN08IGU1TE 800-08 T3 08M-I-G	39.00 - 49.99 mm	BTDDN09PGU1TE 800-09 T3 08H-P-G	39.61 - 47.00 mm	GPS0825DDTE 800-08A
1.339 - 1.693 in	Screw PHSM1153 5513 020 34	1.379 - 2.165 in	Screw PHSM1153 5513 020 34	1.536 - 1.968 in	Screw PHSM1153 5513 020 34	1.560 - 1.850 in	Screw PHSM1156 5513 020 16
43.01 - 47.00 mm	BTDDN10CGU1TE 800-10 T3 08M-C-G	55.00 - 65.00 mm	BTDDN12IGU1TE 800-12 T3 08M-I-G	50.00 - 65.00 mm	BTDDN11PGU1TE 800-11 T3 08H-P-G	47.01 - 54.99 mm	GPS1030DDTE 800-10A
1.694 - 1.850 in	Screw PHSM1153 5513 020 34	2.166 - 2.559 in	Screw PHSM1153 5513 020 34	1.969 - 2.559 in	Screw PHSM1153 5513 020 34	1.851 - 2.165 in	Screw PHSM1157 416.1-833
47.01 - 49.99 mm	BTDDN12CGU1TE 800-12 T3 08M-C-G					55.00 - 65.00 mm	GPS1235DDTE 800-12A
1.851 - 1.968 in	Screw PHSM1153 5513 020 34					2.166 - 2.559 in	Screw PHSM1157 416.1-833
50.00 - 57.99 mm	BTDDN10CGU1TE 800-10 T3 08M-C-G						
1.969 - 2.283 in	Screw PHSM1153 5513 020 34						
58.00 - 65.00 mm	BTDDN12CGU1TE 800-12 T3 08M-C-G						
2.284 - 2.559 in	Screw PHSM1153 5513 020 34						

Center



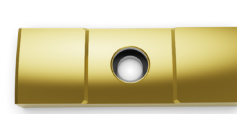
Intermediate



Peripheral



Guide Pad



DirectDex - Feed & Speed



Inch values

ISO	ANSI	Material	Specific cutting force kc1 lbs/in ²	Hardness Brinell HB	Geometry / Grade	Cutting speed vc ft/min	Drill diameter, inch
							0.472-1.311
							Feed f _n inch/rev
P	1018, 1020, 1215	Unalloyed steel Non-hardened 0.10-0.25% C	290 000	90-200	TE	260-328	.002-.006
	1045, 1050, 1335	Non-hardened 0.25-0.55% C	304 500	125-225	TE	260-328	.002-.006
	1055, 1060	Non-hardened 0.55-0.80% C	316 100	150-250	TE	260-328	.002-.006
	1095	High carbon steel, annealed	336 400	180-275	TES	200-300	.002-.006
	4140, 52100, 8620	Low alloy steel Non hardened	304 500	150-260	TE	230-328	.002-.006
	4140, 52100, 8620	Hardened and tempered	402 400	220-450	TE	200-328	.002-.006
	D3, H13, A2	High alloy steel Annealed	362 500	150-250	TE	200-328	.002-.006
	M3, M35 D3, H13, A2	Annealed HSS Hardened tool steel	398 750 543 750	150-250 250-350	TE TE	230-328 200-328	.002-.006 .002-.006
	D3, H13, A2	Hardened steel, others	580 000	250-450	TE	200-328	.002-.006
	1018, 1045, 1055 4140, 52100, 8620	Castings Unalloyed Low alloyed (alloying elements < 5%)	261 000 2304 500	90-225 150-250	TE TE	200-328 165-300	.002-.006 .002-.006
M	403, 405, 410	Rolled/forged Ferritic/Martensitic, non hardened	333 500	150-270	TE	165-295	.002-.007
	15-5, 17-4	Corrosion Resistance	350.000	277-352	TE	127-200	.002-.009
	304, 316, 318	Austenitic	377 000	150-270	TE	165-290	.002-.009
K	32510 40010, 50005	Malleable Ferritic Pearlitic	137 750 159 500	110-145 150-270	TE TE	250-328 250-328	.002-.006 .002-.006
	Class 20, 25, 30 Class 45, 50, 60	Grey Low tensile strength High tensile strength	159 500 187 050	150-220 200-330	TE TE	196-300 196-300	.002-.006 .002-.006
	60-40-18, 80-55-56 100-70-03	Nodular Ferritic Pearlitic	152 250 253 750	125-230 200-300	TE TE	165-275 165-275	.002-.006 .002-.006
N	7075, 2024, 7010	Aluminium alloys Wrought or wrought and coldworked, non- aging	72 500	30-100	TE	213-427	.002-.009
	7075, 2024, 7010	Wrought or wrought and aged	116 000	30-150	TE	213-427	.002-.009
	7075, 2024, 7010	Cast, non aging	108 750	40-100	TE	213-427	.002-.009
	7075, 2024, 7010	Cast or cast and aged	130 500	70-140	TE	213-427	.002-.009
	Copper Copper	Copper and copper alloys Free cutting alloys (Pb > 1%) Brass and leaded alloys (Pb < 1%)	101 500 101 500	70-160 50-200	TE TE	213-427 213-427	.0015-.005 .0015-.005
S	330	Iron base Annealed or solution treated	435 000	180-230	TES	50-150	.002-.009
	Waspaloy, Inconel	Nickel base Annealed or solution treated	481 400	140-300	TES	50-150	.002-.009
	Air Resistant 213, Jetalloy 209	Cobalt alloys Annealed or solution treated	478 500	180-230	TES	50-150	.002-.009
	Ti6Al4V	Titanium Alfa- , near Alfa- and Alfa + Beta alloys annealed	242 875	600-1100	TES	100-165	.002-.009

DirectDex - Feed & Speed



Metric values

ISO	ANSI	Material	Specific cutting force kc1 N/mm ²	Hardness Brinell HB	Geometry / Grade	Cutting speed vc m/min	Drill diameter, mm
							≥ 63.50
							Feed f _n mm/r
P	1018, 1020, 1215	Unalloyed steel Non-hardened 0.10-0.25% C	1500	90-200	-G/-L/TE	80-100	0.18-0.35
	1045, 1050, 1335	Non-hardened 0.25-0.55% C	1600	125-225	-G/TE	80-100	0.18-0.35
	1055, 1060	Non-hardened 0.55-0.80% C	1700	150-250	-G/TE	80-100	0.18-0.35
	1095	High carbon steel, annealed	1800	180-275	-G/TE	80-100	0.18-0.35
	4140, 52100, 8620	Low alloy steel Non hardened	1700	150-260	-G/TE	70-100	0.18-0.35
	4140, 52100, 8620	Hardened and tempered	1900	220-450	-G/TE	60-100	0.18-0.35
	D3, H13, A2	High alloy steel Annealed	1950	150-250	-G/TE	70-100	0.18-0.30
	M3, M35	Annealed HSS	2150	150-250	-G/TE	70-100	0.18-0.30
	D3, H13, A2	Hardened tool steel	2900	250-350	-G/TE	60-100	0.16-0.30
	D3, H13, A2	Hardened steel, others	3100	250-450	-G/TE	60-100	0.16-0.30
	1018, 1045, 1055	Castings Unalloyed	1400	90-225	-G/TE	50-100	0.15-0.30
	4140, 52100, 8620	Low alloyed (alloying elements < 5%)	1600	150-250	-G/TE	50-100	0.15-0.30
M	403, 405, 410	Rolled/forged Ferritic/Martensitic, non hardened	1800	150-270	-G/L/TE	50-90	0.15-0.30
	304, 316, 318	Austenitic	1950	150-275	-L/TE	50-90	0.15-0.30
K	32510	Malleable Ferritic	790	110-145	-G/TE	80-100	0.18-0.30
	40010, 50005	Pearlitic	900	150-270	-G/TE	80-100	0.18-0.30
	Class 20, 25, 30	Grey Low tensile strength	890	150-220	-G/TE	60-100	0.16-0.35
	Class 45, 50, 60	High tensile strength	1100	200-330	-G/TE	60-100	0.16-0.35
	60-40-18, 80-55-56	Nodular Ferritic	900	125-230	-G/TE	50-100	0.16-0.35
	100-70-03	Pearlitic	1350	200-300	-G/TE	50-100	0.16-0.35
N	7075, 2024, 7010	Aluminium alloys Wrought or wrought and coldworked, non- aging	400	30-100	-L/TE	65-130	0.10-0.30
	7075, 2024, 7010	Wrought or wrought and aged	650	30-150	-L/TE	65-130	0.10-0.30
	7075, 2024, 7010	Cast, non aging	600	40-100	-L/TE	65-130	0.10-0.30
	7075, 2024, 7010	Cast or cast and aged	700	70-140	-L/TE	65-130	0.10-0.30
	Copper	Copper and copper alloys Free cutting alloys (Pb > 1%)	550	70-160	-L/TE	65-130	0.10-0.30
	Copper	Brass and leaded alloys (Pb < 1%)	550	50-200	-L/TE	65-130	0.10-0.30
S	330	Iron base Annealed or solution treated	2400	180-230	-G/TES	20-65	0.15-0.30
	Waspaloy, Inconel	Nickel base Annealed or solution treated	2650	140-300	-L/TES	20-65	0.15-0.30
	Air Resistant 213, Jetalloy 209	Cobalt alloys Annealed or solution treated	2700	180-230	-L/TES	20-65	0.15-0.30
	Ti6Al4V	Titanium Alfa- , near Alfa- and Alfa + Beta alloys annealed	1400	600-1100	-L/TES -L/TES	30-60 30-100	0.15-0.30 0.15-0.30

More Deep Hole Drilling Solutions from Sunnen

Sunnen is committed to designing, manufacturing, and delivering world class deep hole machining tools and systems that meet or exceed customer requirements.

Whether a Single Tube, Double Tube, Gun Drilling or other specialty system is needed, Sunnen has the engineering expertise and manufacturing capabilities to meet any deep hole machining requirements.



MicroDex – Solid Drilling

STS	DTS
Diameter Range	Diameter Range
15.97 – 28.00 mm	18.40 – 28.00 mm
0.724 – 1.102 inch	0.628 – 1.102 inch



HellerDex – Solid Drilling

STS	DTS
Diameter Range	Diameter Range
38.00 – 233.00 mm	38.00 – 184.00 mm
1.496 – 9.173 inch	1.496 – 7.240 inch



Stabilizer - Trepanning

STS
Diameter Range
38.00 – 233.00 mm
1.496 – 9.173 inch



Push Counterbore – Counterboring

STS	DTS
Diameter Range	Diameter Range
25.40 – 762 mm	25.40 – 184.00 mm
1.000 – 30.000 inch	1.000 – 7.240 inch



Form Solution

STS	DTS
Made to Order	Made to Order

Sandvik T-Max_801 style consumables upon request

Sunnen's SHDD Series Deep Hole Drills

Easy-to-use, efficient, heavy-duty

- Available in three standard models
 - 2-meter maximum part length (SHDD-2500)
 - 4-meter maximum part length (SHDD-4500)
 - 6-meter maximum part length (SHDD-6500)
- Large 394 mm (15.5 in) color HMI with intuitive controls for ease of use.
- Heavy-duty Bosch-Rexroth 55 mm (2.16 in) linear rails for maximum durability.
- Standard safety system with a combination of multiple E-stops, light curtains, interlocked guarding and fencing.
- 67 kw (90 hp) tool motor with headstock drive for optimum power.
- Beckhoff servo driven heavy-duty ball screws for tool feed.
 - 80 mm ball screw (3.15 in) SHDD-2500 / SHDD-4500
 - 100 mm ball screw (3.84 in) SHDD-6500
- Electrical enclosure air conditioning unit standard to protect critical electronics in high temperature environments.
- Heavy-duty welded base.
- Heavy-duty 3-jaw chucks standard.
- Automatic lubrication system for ball screw, rack and pinion, and linear rails standard.
- Heavy-duty servo rack and pinion driven work piece positioning and clamping.
- Spindle carriage control station for ease of driveshaft installation.
- Sunnen is the complete system supplier ... machines, tools, chip management, cooling systems and cutting fluids.
- Standard 38 kw (50 HP) workpiece headstock drive (counter rotation).



Sunnen Designed and Developed Intuitive Control System

Features include:

- Beckhoff PLC with 394 mm (15.5 in) color touchscreen
- All machine functions controlled from the operator station
- Real time graphical display of tool position, tool feed load, spindle loads, and coolant pressure and volume
- Two-button part-to-part mode for high production operation
- Slow start tool feed for setup
- Tool protection function
- USB port for ease of backup
- Metric/inch units screen selectable
- Up to 500 part setups can be saved and retrieved
- Machine diagnostics
- On-screen, multi-language selection



Heavy-Duty Sunnen Designed and Built Coolant System

Features include:

- Modular clean and dirty tanks with 6245 liter (1650 gallon) maximum capacity and 3765 liter (1000 gallon) operating capacity
- Heavy-duty welded construction using 4.75 mm (.187 in) plate with a double wall option available
- High flow 10-micron, four-bag filtration system
- Heavy-duty screw type pump with 757 lpm (200 gpm) max flow and 5.2MPa (750 psig) max pressure
- 70-micron inlet filter
- Standard chiller for hot environments
- Designed for maintainability with multiple level sensors, clean-out ports and instrumentation
- Heavy-duty chip conveyor
- Active coolant level monitoring



A LEGACY OF EXCELLENCE SINCE 1924.

SUNNEN WORLDWIDE



With world headquarters in St. Louis, Missouri, Sunnen is the largest fully integrated company in the world specializing in precision bore creation, sizing and finishing equipment. A Sunnen solution might include honing, lapping, skiving/roller burnishing or deep hole machining...or a combination of those processes.

Our 13 international subsidiaries and over 40 authorized distributors allow us to deliver top quality Sunnen machines, tools, service and training wherever they are needed around the globe.

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