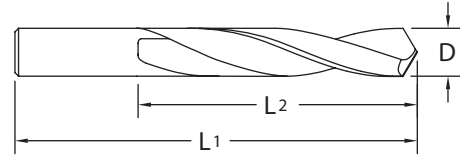
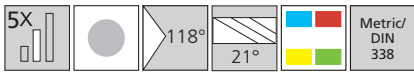


Twister® Hi-Tuff® Jobbers Drill - 5xD Series 224 Uncoated

Non Revêtu · Unbeschichtet
Non Rivestite · Niepowlekane

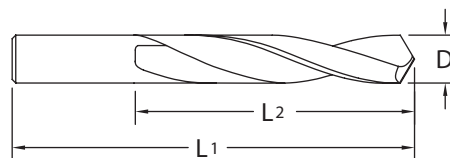


Series 224	Drill Dimensions		
Tool No	Ø D	L1	L2
224 0030	0.3	26.0	3.0
224 0035	0.35		4.0
224 0040	0.4		5.0
224 0045	0.45		5.0
224 0050	0.5		6.0
224 0055	0.55		7.0
224 0060	0.6		7.0
224 0065	0.65	26.0	8.0
224 0070	0.7	28.0	9.0
224 0075	0.75	28.0	9.0
224 0080	0.8	30.0	10.0
224 0085	0.85	30.0	10.0
224 0090	0.9	32.0	11.0
224 0095	0.95	32.0	11.0
224 0100	1.0	34.0	12.0
224 0105	1.05	34.0	12.0
224 0110	1.1	36.0	14.0
224 0115	1.15	36.0	14.0
224 0120	1.2	38.0	16.0
224 0125	1.25		
224 0130	1.3	38.0	16.0
224 0135	1.35	40.0	18.0
224 0140	1.4		
224 0145	1.45		
224 0150	1.5	40.0	18.0
224 0160	1.6	43.0	20.0
224 0170	1.7	43.0	20.0
224 0180	1.8	46.0	22.0
224 0190	1.9	46.0	22.0
224 0200	2.0	49.0	24.0
224 0210	2.1	49.0	24.0
224 0220	2.2	53.0	27.0
224 0230	2.3	53.0	27.0
224 0240	2.4	57.0	30.0
224 0250	2.5		
224 0260	2.6	57.0	30.0
224 0270	2.7	61.0	33.0
224 0280	2.8		
224 0290	2.9		
224 0300	3.0	61.0	33.0
224 0310	3.1	65.0	36.0
224 0320	3.2		
224 0330	3.3	65.0	36.0
224 0340	3.4	70.0	39.0
224 0350	3.5	70.0	39.0

Series 224	Drill Dimensions		
Tool No	Ø D	L1	L2
224 0360	3.6	70.0	39.0
224 0370	3.7	70.0	39.0
224 0380	3.8	75.0	43.0
224 0390	3.9		
224 0400	4.0		
224 0410	4.1		
224 0420	4.2	75.0	43.0
224 0430	4.3	80.0	47.0
224 0440	4.4		
224 0450	4.5		
224 0460	4.6		
224 0470	4.7	80.0	47.0
224 0480	4.8	86.0	52.0
224 0490	4.9		
224 0500	5.0		
224 0510	5.1		
224 0520	5.2		
224 0530	5.3	86.0	52.0
224 0540	5.4	93.0	57.0
224 0550	5.5		
224 0560	5.6		
224 0570	5.7		
224 0580	5.8		
224 0590	5.9		
224 0600	6.0	93.0	57.0
224 0610	6.1	101.0	63.0
224 0620	6.2		
224 0630	6.3		
224 0640	6.4		
224 0650	6.5		
224 0660	6.6		
224 0670	6.7	101.0	63.0
224 0680	6.8	109.0	69.0
224 0690	6.9		
224 0700	7.0		
224 0710	7.1		
224 0720	7.2		
224 0730	7.3		
224 0740	7.4		
224 0750	7.5	109.0	69.0
224 0760	7.6	117.0	75.0
224 0770	7.7		
224 0780	7.8		
224 0790	7.9		
224 0800	8.0	117.0	75.0



Twister® Hi-Tuff® Jobbers Drill - 5xD Series 224 Uncoated

 Non Revêtu · Unbeschichtet
 Non Rivestite · Niepowlekane


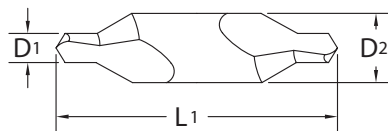
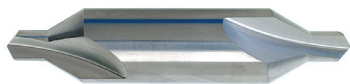
Series 224	Drill Dimensions		
Tool No	Ø D	L1	L2
224 0810	8.1	117.0	75.0
224 0820	8.2		
224 0830	8.3		
224 0840	8.4		
224 0850	8.5	117.0	75.0
224 0860	8.6	125.0	81.0
224 0870	8.7		
224 0880	8.8		
224 0890	8.9	125.0	81.0
224 0900	9.0	125.0	81.0
224 0910	9.1		
224 0920	9.2		
224 0930	9.3		
224 0940	9.4		
224 0950	9.5	125.0	81.0
224 0960	9.6	133.0	87.0
224 0970	9.7		
224 0980	9.8		
224 0990	9.9		
224 1000	10.0		
224 1010	10.1		
224 1020	10.2	133.0	

Series 224	Drill Dimensions		
Tool No	Ø D	L1	L2
224 1030	10.3	133.0	
224 1040	10.4		
224 1050	10.5		
224 1060	10.6	133.0	87.0
224 1070	10.7	142.0	94.0
224 1080	10.8	142.0	94.0
224 1090	10.9	142.0	94.0
224 1100	11.0		
224 1110	11.1		
224 1120	11.2		
224 1130	11.3		
224 1140	11.4		
224 1150	11.5		
224 1160	11.6		
224 1170	11.7		
224 1180	11.8	142.0	94.0
224 1190	11.9	151.0	101.0
224 1200	12.0		
224 1250	12.5		
224 1300	13.0	151.0	101.0
224 1350	13.5	160.0	108.0
224 1400	14.0	160.0	108.0



Twister® Centre Drill Series 402 Uncoated

Non Revêtu · Unbeschichtet
Non Rivestite · Niepowlekane



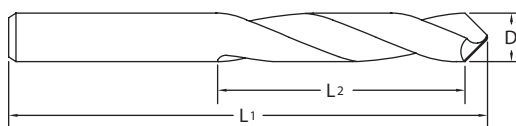
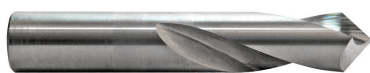
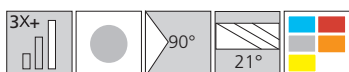
Series 402	Drill Dimensions		
Tool No	Ø D1	Ø D2 (h9)	L1
402 0050	0.5	3.15	31.5*
402 0080	0.8	3.15	31.5*
402 0100	1.0	3.15	31.5
402 0125	1.25	3.15	31.5
402 0160	1.6	4.0	35.5
402 0200	2.0	5.0	40.0
402 0250	2.5	6.3	45.0
402 0315	3.15	8.0	50.0
402 0400	4.0	10.0	56.0
402 0500	5.0	12.5	63.0

* Overall Length (L1) Not To DIN Specification



Twister® 90° NC Spot Drill Series 404 Uncoated

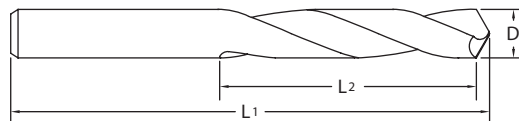
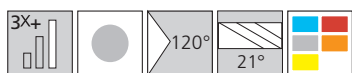
Non Revêtu · Unbeschichtet
Non Rivestite · Niepowlekane



Series 404	Drill Dimensions		
Tool No	Ø D	L1	L2
404 0500	5.0	51.0	26.0
404 0600	6.0	51.0	26.0
404 0800	8.0	64.0	26.0
404 1000	10.0	70.0	30.0
404 1200	12.0	76.0	40.0



Twister® 120° NC Spot Drill Series 403 Uncoated

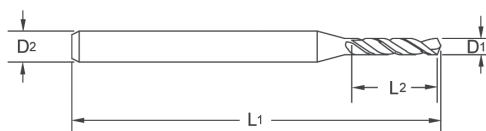
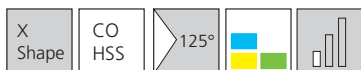
 · Non Revêtu · Unbeschichtet
 · Non Rivestite · Niepowlekane


Series 403	Drill Dimensions		
Tool No	Ø D	L1	L2
403 0500	5.0	51.0	26.0
403 0600	6.0	51.0	26.0
403 0800	8.0	64.0	26.0
403 1000	10.0	70.0	30.0
403 1200	12.0	76.0	40.0



Drills
Forets
Bohrer
Punte
Wiertła

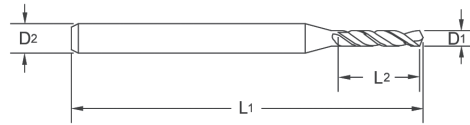
HSSCo Platinum Drills Series PRM-KSN Uncoated

 · Non Revêtu · Unbeschichtet
 · Non Rivestite · Niepowlekane


Series PRM-KSN	Tool Dimensions (mm)		
Tool No	D1	L1	L2
PRM-KS00030N	0.3	40.0	3.5
PRM-KS00040N	0.4	40.0	4.5
PRM-KS00050N	0.5	40.0	5.0
PRM-KS00060N	0.6	40.0	6.0
PRM-KS00070N	0.7	40.0	6.0
PRM-KS00080N	0.8	40.0	7.0
PRM-KS00090N	0.9	40.0	8.0



HSSCo Platinum Drills Series PRXS-KST

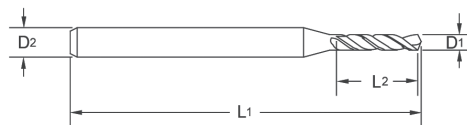


Series PRXS-KST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KS00100T	1.0	3.0	40.0	8.0
PRXS-KS00110T	1.1	3.0	40.0	10.0
PRXS-KS00120T	1.2	3.0	40.0	10.0
PRXS-KS00130T	1.3	3.0	40.0	11.0
PRXS-KS00140T	1.4	3.0	40.0	11.0
PRXS-KS00150T	1.5	3.0	40.0	12.0
PRXS-KS00160T	1.6	3.0	40.0	12.0
PRXS-KS00170T	1.7	3.0	40.0	12.0
PRXS-KS00180T	1.8	3.0	40.0	12.0
PRXS-KS00190T	1.9	3.0	40.0	12.0
PRXS-KS00200T	2.0	3.0	40.0	13.0
PRXS-KS00210T	2.1	3.0	40.0	13.0
PRXS-KS00220T	2.2	3.0	40.0	13.0
PRXS-KS00230T	2.3	3.0	40.0	13.0
PRXS-KS00240T	2.4	3.0	40.0	13.0
PRXS-KS00250T	2.5	3.0	40.0	13.0
PRXS-KS00260T	2.6	3.0	40.0	13.0
PRXS-KS00270T	2.7	3.0	40.0	16.0
PRXS-KS00280T	2.8	3.0	40.0	16.0
PRXS-KS00290T	2.9	3.0	40.0	16.0
PRXS-KS00300T	3.0	4.0	40.0	16.0
PRXS-KS00310T	3.1	4.0	50.0	18.0
PRXS-KS00320T	3.2	4.0	50.0	18.0
PRXS-KS00330T	3.3	4.0	50.0	18.0
PRXS-KS00340T	3.4	4.0	50.0	20.0
PRXS-KS00350T	3.5	4.0	50.0	20.0
PRXS-KS00360T	3.6	4.0	50.0	20.0
PRXS-KS00370T	3.7	4.0	50.0	20.0
PRXS-KS00380T	3.8	4.0	50.0	22.0
PRXS-KS00390T	3.9	4.0	50.0	22.0
PRXS-KS00400T	4.0	6.0	70.0	22.0
PRXS-KS00410T	4.1	6.0	70.0	22.0
PRXS-KS00420T	4.2	6.0	70.0	22.0
PRXS-KS00430T	4.3	6.0	70.0	22.0
PRXS-KS00440T	4.4	6.0	70.0	26.0
PRXS-KS00450T	4.5	6.0	70.0	26.0
PRXS-KS00460T	4.6	6.0	70.0	26.0
PRXS-KS00470T	4.7	6.0	70.0	26.0
PRXS-KS00480T	4.8	6.0	70.0	26.0
PRXS-KS00490T	4.9	6.0	70.0	26.0
PRXS-KS00500T	5.0	6.0	70.0	26.0
PRXS-KS00510T	5.1	6.0	70.0	26.0
PRXS-KS00520T	5.2	6.0	70.0	26.0
PRXS-KS00530T	5.3	6.0	70.0	26.0
PRXS-KS00540T	5.4	6.0	70.0	28.0
PRXS-KS00550T	5.5	6.0	70.0	28.0
PRXS-KS00560T	5.6	6.0	70.0	28.0
PRXS-KS00570T	5.7	6.0	70.0	28.0
PRXS-KS00580T	5.8	6.0	70.0	28.0

Series PRXS-KST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KS00590T	5.9	6.0	70.0	28.0
PRXS-KS00600T	6.0	8.0	80.0	31.0
PRXS-KS00610T	6.1	8.0	80.0	31.0
PRXS-KS00620T	6.2	8.0	80.0	31.0
PRXS-KS00630T	6.3	8.0	80.0	31.0
PRXS-KS00640T	6.4	8.0	80.0	31.0
PRXS-KS00650T	6.5	8.0	80.0	31.0
PRXS-KS00660T	6.6	8.0	80.0	31.0
PRXS-KS00670T	6.7	8.0	80.0	31.0
PRXS-KS00680T	6.8	8.0	80.0	34.0
PRXS-KS00690T	6.9	8.0	80.0	34.0
PRXS-KS00700T	7.0	8.0	80.0	34.0
PRXS-KS00710T	7.1	8.0	80.0	34.0
PRXS-KS00720T	7.2	8.0	80.0	34.0
PRXS-KS00730T	7.3	8.0	80.0	34.0
PRXS-KS00740T	7.4	8.0	80.0	34.0
PRXS-KS00750T	7.5	8.0	80.0	34.0
PRXS-KS00760T	7.6	8.0	80.0	37.0
PRXS-KS00770T	7.7	8.0	80.0	37.0
PRXS-KS00780T	7.8	8.0	80.0	37.0
PRXS-KS00790T	7.9	8.0	80.0	37.0
PRXS-KS00800T	8.0	10.0	90.0	37.0
PRXS-KS00810T	8.1	10.0	90.0	37.0
PRXS-KS00820T	8.2	10.0	90.0	37.0
PRXS-KS00830T	8.3	10.0	90.0	37.0
PRXS-KS00840T	8.4	10.0	90.0	37.0
PRXS-KS00850T	8.5	10.0	90.0	37.0
PRXS-KS00860T	8.6	10.0	90.0	40.0
PRXS-KS00870T	8.7	10.0	90.0	40.0
PRXS-KS00880T	8.8	10.0	90.0	40.0
PRXS-KS00890T	8.9	10.0	90.0	40.0
PRXS-KS00900T	9.0	10.0	90.0	40.0
PRXS-KS00910T	9.1	10.0	90.0	40.0
PRXS-KS00920T	9.2	10.0	90.0	40.0
PRXS-KS00930T	9.3	10.0	90.0	40.0
PRXS-KS00940T	9.4	10.0	90.0	40.0
PRXS-KS00950T	9.5	10.0	90.0	40.0
PRXS-KS00960T	9.6	10.0	90.0	43.0
PRXS-KS00970T	9.7	10.0	90.0	43.0
PRXS-KS00980T	9.8	10.0	90.0	43.0
PRXS-KS00990T	9.9	10.0	90.0	43.0
PRXS-KS01000T	10.0	12.0	100.0	43.0
PRXS-KS01010T	10.1	12.0	100.0	43.0
PRXS-KS01020T	10.2	12.0	100.0	43.0
PRXS-KS01030T	10.3	12.0	100.0	43.0
PRXS-KS01040T	10.4	12.0	100.0	43.0
PRXS-KS01050T	10.5	12.0	100.0	43.0
PRXS-KS01060T	10.6	12.0	100.0	43.0
PRXS-KS01070T	10.7	12.0	100.0	47.0



HSSCo Platinum Drills Series PRXS-KST

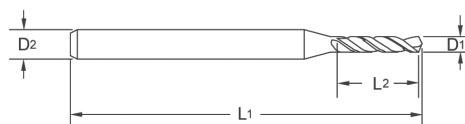
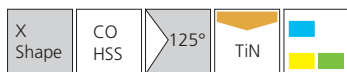


Series PRXS-KST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KS01080T	10.8	12.0	100.0	47.0
PRXS-KS01090T	10.9	12.0	100.0	47.0
PRXS-KS01100T	11.0	12.0	100.0	47.0
PRXS-KS01110T	11.1	12.0	100.0	47.0
PRXS-KS01120T	11.2	12.0	100.0	47.0
PRXS-KS01130T	11.3	12.0	100.0	47.0
PRXS-KS01140T	11.4	12.0	100.0	47.0
PRXS-KS01150T	11.5	12.0	100.0	47.0
PRXS-KS01160T	11.6	12.0	100.0	47.0
PRXS-KS01170T	11.7	12.0	100.0	47.0
PRXS-KS01180T	11.8	12.0	100.0	47.0

Series PRXS-KST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KS01190T	11.9	12.0	100.0	51.0
PRXS-KS01200T	12.0	12.0	100.0	51.0
PRXS-KS01210T	12.1	12.0	100.0	51.0
PRXS-KS01220T	12.2	12.0	100.0	51.0
PRXS-KS01230T	12.3	12.0	100.0	51.0
PRXS-KS01240T	12.4	12.0	100.0	51.0
PRXS-KS01250T	12.5	12.0	100.0	51.0
PRXS-KS01260T	12.6	12.0	100.0	51.0
PRXS-KS01270T	12.7	12.0	100.0	51.0
PRXS-KS01280T	12.8	12.0	100.0	51.0
PRXS-KS01290T	12.9	12.0	100.0	51.0
PRXS-KS01300T	13.0	12.0	100.0	51.0



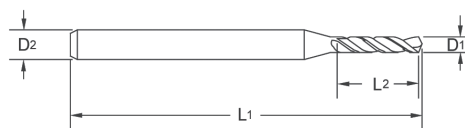
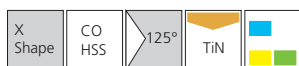
HSSCo Platinum Drills Series PRXS-KMT



Series PRXS-MST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KM00100T	1.0	3.0	55.0	16.0
PRXS-KM00110T	1.1	3.0	55.0	18.0
PRXS-KM00120T	1.2	3.0	55.0	18.0
PRXS-KM00130T	1.3	3.0	55.0	20.0
PRXS-KM00140T	1.4	3.0	55.0	21.0
PRXS-KM00150T	1.5	3.0	55.0	21.0
PRXS-KM00160T	1.6	3.0	55.0	22.0
PRXS-KM00170T	1.7	3.0	55.0	22.0
PRXS-KM00180T	1.8	3.0	55.0	23.0
PRXS-KM00190T	1.9	3.0	55.0	23.0
PRXS-KM00200T	2.0	3.0	55.0	24.0
PRXS-KM00210T	2.1	3.0	55.0	24.0
PRXS-KM00220T	2.2	3.0	55.0	27.0
PRXS-KM00230T	2.3	3.0	55.0	27.0
PRXS-KM00240T	2.4	3.0	55.0	30.0
PRXS-KM00250T	2.5	3.0	55.0	30.0

Series PRXS-MST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KM00260T	2.6	3.0	55.0	30.0
PRXS-KM00270T	2.7	3.0	55.0	33.0
PRXS-KM00280T	2.8	3.0	55.0	33.0
PRXS-KM00290T	2.9	3.0	55.0	33.0
PRXS-KM00300T	3.0	4.0	70.0	33.0
PRXS-KM00310T	3.1	4.0	70.0	36.0
PRXS-KM00320T	3.2	4.0	70.0	36.0
PRXS-KM00330T	3.3	4.0	70.0	36.0
PRXS-KM00340T	3.4	4.0	70.0	39.0
PRXS-KM00350T	3.5	4.0	70.0	39.0
PRXS-KM00360T	3.6	4.0	70.0	39.0
PRXS-KM00370T	3.7	4.0	70.0	39.0
PRXS-KM00380T	3.8	4.0	70.0	43.0
PRXS-KM00390T	3.9	4.0	70.0	43.0
PRXS-KM00400T	4.0	6.0	90.0	43.0
PRXS-KM00410T	4.1	6.0	90.0	43.0

HSSCo Platinum Drills Series PRXS-KMT



Series PRXS-MST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KM00420T	4.2	6.0	90.0	43.0
PRXS-KM00430T	4.3	6.0	90.0	47.0
PRXS-KM00440T	4.4	6.0	90.0	47.0
PRXS-KM00450T	4.5	6.0	90.0	47.0
PRXS-KM00460T	4.6	6.0	90.0	47.0
PRXS-KM00470T	4.7	6.0	90.0	47.0
PRXS-KM00480T	4.8	6.0	90.0	52.0
PRXS-KM00490T	4.9	6.0	90.0	52.0
PRXS-KM00500T	5.0	6.0	90.0	52.0
PRXS-KM00510T	5.1	6.0	90.0	52.0
PRXS-KM00520T	5.2	6.0	90.0	52.0
PRXS-KM00530T	5.3	6.0	90.0	52.0
PRXS-KM00540T	5.4	6.0	90.0	57.0
PRXS-KM00550T	5.5	6.0	90.0	57.0
PRXS-KM00560T	5.6	6.0	90.0	57.0
PRXS-KM00570T	5.7	6.0	90.0	57.0
PRXS-KM00580T	5.8	6.0	90.0	57.0
PRXS-KM00590T	5.9	6.0	90.0	57.0
PRXS-KM00600T	6.0	8.0	110.0	63.0
PRXS-KM00610T	6.1	8.0	110.0	63.0
PRXS-KM00620T	6.2	8.0	110.0	63.0
PRXS-KM00630T	6.3	8.0	110.0	63.0
PRXS-KM00640T	6.4	8.0	110.0	63.0
PRXS-KM00650T	6.5	8.0	110.0	63.0
PRXS-KM00660T	6.6	8.0	110.0	63.0
PRXS-KM00670T	6.7	8.0	110.0	69.0
PRXS-KM00680T	6.8	8.0	110.0	69.0
PRXS-KM00690T	6.9	8.0	110.0	69.0
PRXS-KM00700T	7.0	8.0	110.0	69.0
PRXS-KM00710T	7.1	8.0	110.0	69.0
PRXS-KM00720T	7.2	8.0	110.0	69.0
PRXS-KM00730T	7.3	8.0	110.0	69.0
PRXS-KM00740T	7.4	8.0	110.0	69.0
PRXS-KM00750T	7.5	8.0	110.0	69.0
PRXS-KM00760T	7.6	8.0	110.0	75.0
PRXS-KM00770T	7.7	8.0	110.0	75.0
PRXS-KM00780T	7.8	8.0	110.0	75.0
PRXS-KM00790T	7.9	8.0	110.0	75.0
PRXS-KM00800T	8.0	10.0	130.0	75.0
PRXS-KM00810T	8.1	10.0	130.0	75.0
PRXS-KM00820T	8.2	10.0	130.0	75.0
PRXS-KM00830T	8.3	10.0	130.0	75.0
PRXS-KM00840T	8.4	10.0	130.0	75.0
PRXS-KM00850T	8.5	10.0	130.0	75.0
PRXS-KM00860T	8.6	10.0	130.0	81.0

Series PRXS-MST	Tool Dimensions (mm)			
Tool No	D1	D2	L1	L2
PRXS-KM00870T	8.7	10.0	130.0	81.0
PRXS-KM00880T	8.8	10.0	130.0	81.0
PRXS-KM00890T	8.9	10.0	130.0	81.0
PRXS-KM00900T	9.0	10.0	130.0	81.0
PRXS-KM00910T	9.1	10.0	130.0	81.0
PRXS-KM00920T	9.2	10.0	130.0	81.0
PRXS-KM00930T	9.3	10.0	130.0	81.0
PRXS-KM00940T	9.4	10.0	130.0	81.0
PRXS-KM00950T	9.5	10.0	130.0	81.0
PRXS-KM00960T	9.6	10.0	130.0	81.0
PRXS-KM00970T	9.7	10.0	130.0	81.0
PRXS-KM00980T	9.8	10.0	130.0	81.0
PRXS-KM00990T	9.9	10.0	130.0	81.0
PRXS-KM01000T	10.0	12.0	150.0	87.0
PRXS-KM01010T	10.1	12.0	150.0	87.0
PRXS-KM01020T	10.2	12.0	150.0	87.0
PRXS-KM01030T	10.3	12.0	150.0	87.0
PRXS-KM01040T	10.4	12.0	150.0	87.0
PRXS-KM01050T	10.5	12.0	150.0	87.0
PRXS-KM01060T	10.6	12.0	150.0	87.0
PRXS-KM01070T	10.7	12.0	150.0	94.0
PRXS-KM01080T	10.8	12.0	150.0	94.0
PRXS-KM01090T	10.9	12.0	150.0	94.0
PRXS-KM01100T	11.0	12.0	150.0	94.0
PRXS-KM01110T	11.1	12.0	150.0	94.0
PRXS-KM01120T	11.2	12.0	150.0	94.0
PRXS-KM01130T	11.3	12.0	150.0	94.0
PRXS-KM01140T	11.4	12.0	150.0	94.0
PRXS-KM01150T	11.5	12.0	150.0	94.0
PRXS-KM01160T	11.6	12.0	150.0	94.0
PRXS-KM01170T	11.7	12.0	150.0	94.0
PRXS-KM01180T	11.8	12.0	150.0	94.0
PRXS-KM01190T	11.9	12.0	150.0	100.0
PRXS-KM01200T	12.0	12.0	150.0	100.0
PRXS-KM01210T	12.1	12.0	150.0	100.0
PRXS-KM01220T	12.2	12.0	150.0	100.0
PRXS-KM01230T	12.3	12.0	150.0	100.0
PRXS-KM01240T	12.4	12.0	150.0	100.0
PRXS-KM01250T	12.5	12.0	150.0	100.0
PRXS-KM01260T	12.6	12.0	150.0	100.0
PRXS-KM01270T	12.7	12.0	150.0	100.0
PRXS-KM01280T	12.8	12.0	150.0	100.0
PRXS-KM01290T	12.9	12.0	150.0	100.0
PRXS-KM01300T	13.0	12.0	150.0	100.0



Twister® High Performance GP Drills

Series HPDSR - HPDCR Recommended cutting data

Conditions de coupe recommandées :: Empfohlene Schnittdaten :: Dati di taglio raccomandati :: Zalecane dane o cięciu (Zalacane parametry skrawania)

Recommended Speeds By Material Group		Vc (m/min)	
Material Groups	Material Type	HPDSR	HPDCR
		5 X D Solid	5 X D Through Coolant
Steels	P	Low Carbon	150 - 160 - 170
		Alloy Steel (≤ 35 Rc)	110 - 120 - 130
		Alloy Steel (36-45 Rc)	100 - 110 - 120
		Mould/Tool Steel	60 - 70 - 80
Stainless Steels	M	Austenitic	40 - 50 - 60
		Martensitic	30 - 40 - 50
Cast Irons	K	Grey Cast Iron	180 - 190 - 200
		Ductile Cast Iron	140 - 150 - 160

 RPM Formula For Metric Drills Only - $RPM = (Vc \times 318.0) \div \text{Drill } \varnothing D^1$

Recommended Feedrates By Material Group		Drill Diameter (mm)								
Material Groups	Material Type	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	
		Feed (mm/rev)								
Steels	P	Low Carbon								
		Alloy Steel (≤ 35 Rc)	0.145	0.181	0.181	0.226	0.285	0.362	0.362	0.453
		Alloy Steel (36-45 Rc)								
		Mould/Tool Steel	0.084	0.102	0.102	0.130	0.167	0.210	0.210	0.260
Stainless Steels	M	Austenitic								
		Martensitic	0.070	0.090	0.090	0.110	0.140	0.180	0.180	0.225
Cast Irons	K	Grey Cast Iron								
		Ductile Cast Iron	0.155	0.193	0.217	0.305	0.305	0.386	0.435	0.532

 Feedrate Formula For Metric Drills - $\text{Feed} = RPM \times \text{mm/rev}$

Twister® X-AL High Performance 3 Flute - 4-5xD

Series 229 Recommended cutting data

Conditions de coupe recommandées :: Empfohlene Schnittdaten :: Dati di taglio raccomandati :: Zalecane dane o cięciu (Zalacane parametry skrawania)

Workpiece Material Groups	Example Materials	Vc (m/min)	Tool Diameter (mm)					
			1.5	3	6	12	20	25
			Feed (mm/rev)					
Titanium Alloys	Ti6Al4V	30	0.013	0.05	0.11	0.15	0.2	0.25
Aluminium < 10% Si	6061/7075	215	0.08	0.20	0.31	0.45	0.61	0.76
Aluminium > 10% Si	-	155	0.05	0.08	0.15	0.25	0.31	0.35
Brass/Copper	-	120	0.05	0.08	0.15	0.25	0.31	0.35
Plastics	-	90	0.05	0.08	0.15	0.25	0.31	0.35

 RPM Formula For Metric Drills Only - $RPM = (Vc \times 318.0) \div \text{Drill } \varnothing D^1$

 Feedrate Formula For Metric Drills - $\text{Feed} = RPM \times \text{mm/rev}$

Twister® Micro Drill

Series 300 Recommended cutting data

Conditions de coupe recommandées :: Empfohlene Schnittdaten :: Dati di taglio raccomandati :: Zalecane dane o cięciu (Zalacane parametry skrawania)

Workpiece Material Groups	Examples	Vc (m/min)	Tool Diameter(mm)				
			0.5	1.0	2.0	3.0	
			Feed (mm/rev)				
Steels	P	Low Carbon Steels 1018	55	.0170	.0250	.0500	.0760
		Alloy Steels (up to 35 Rc) 4140	45	0170	.0250	.0500	.0760
Cast Irons	K	Gray Cast Iron A48 Class 20/G4000	85	0170	.0250	.0500	.0760
		Ductile Cast Iron A536/60-40-18	55	0170	.0250	.0500	.0760
Non-Ferrous	N	Aluminum (<10% Si) 6061-T6/7075-T6	120	0170	.0250	.0500	.0760
		Aluminum (>10% Si) Copper/Brass	75	0170	.0250	.0500	.0760
		Plastic	90	0170	.0250	.0500	.0760

RPM Formula For Metric Drills Only - $RPM = (Vc \times 318.0) \div \text{Drill } \varnothing D^1$

Feedrate Formula For Metric Drills - $\text{Feed} = RPM \times \text{mm/rev}$

Series 302 Recommended cutting data

Conditions de coupe recommandées :: Empfohlene Schnittdaten :: Dati di taglio raccomandati :: Zalecane dane o cięciu (Zalacane parametry skrawania)

Workpiece Material Groups	Examples	Vc (m/min)	Tool Diameter(mm)					
			< .76	.77-.92	.93-1.02	1.03-1.30	> 1.31	
			Feed (mm/rev)					
Steels	P	Low Carbon Steels 1018	90	.005-.015	0.02	0.025	0.036	0.038
		Alloy Steels (up to 35 Rc) 4140	70	.005-.015	0.02	0.025	0.036	0.038
		Alloy Steels (36-45 Rc) 4140	60	.005-.015	0.02	0.025	0.036	0.038
Austenitic	M	304/316	60	.005-.010	0.015	0.02	0.025	0.03
Stainless Steels		Free Machining	55	.005-.010	0.015	0.02	0.025	0.03
		Ferritic Martensitic	30	.005-.015	0.02	0.025	0.036	0.038
Precipitation Hardened Stainless Steels	17-4 PH	25	.005-.015	0.02	0.025	0.036	0.038	
Cast Irons	K	Gray Cast Iron A48 Class 20/G4000	120	.005-.015	0.02	0.025	0.036	0.038
		Ductile Cast Iron A536/60-40-18	110	.005-.015	0.02	0.025	0.036	0.038
Special Alloys	S	Titanium 6AL-4V	20	.005-.010	0.015	0.02	0.025	0.03
		High Temp Alloys Inconel/Hastelloy/Waspelloy	15	.005-.010	0.015	0.02	0.025	0.03
Hardened Steels	H	>45 Rc A2/52100	55	.005-.015	0.02	0.025	0.036	0.038
Non-Ferrous	N	Aluminum (<10% Si)	140	.005-.015	0.02	0.025	0.036	0.038
		Aluminum (>10% Si)	100	.005-.015	0.02	0.025	0.036	0.038
		Plastics	170	.005-.015	0.02	0.025	0.036	0.038
		Composites/Fiber Reinforced Materials/ Circuit Boards	200	.013-.038	0.051	0.076	0.102	0.127

RPM Formula For Metric Drills Only - $RPM = (Vc \times 318.0) \div \text{Drill } \varnothing D^1$

Feedrate Formula For Metric Drills - $\text{Feed} = RPM \times \text{mm/rev}$

Twister® Hi-Roc® Drill - 3xD

Series 200 Metric Recommended cutting data

Conditions de coupe recommandées · Empfohlene Schnittdaten · Dati di taglio raccomandati · Zalecane dane o cięciu (Zalacane parametry skrawania)

Workpiece Material Groups	Examples	Vc (m/min)	Tool Diameter (mm)								
			1.0	1.5	3.0	6.0	10.0	12.0	16.0	20.0	
			Feed (mm/rev)								
Steels	P	Low Carbon Steels 1018	55	.0060	.0130	.0510	.1020	.1270	.1520	.1750	.2030
		Alloy Steels (up to 35 Rc) 4140	45	.0060	.0130	.0510	.1020	.1270	.1520	.1750	.2030
		Alloy Steels (36-45 Rc) 4140	30	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
Austenitic	M	304/316	40	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
Precipitation Hardened Stainless Steels	M	17-4 PH	20	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
Special Alloys	S	Titanium 6AL-4V	25	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
		High Temp Alloys Inconel/Hastelloy/Waspelloy	25	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
Hardened Steels	H	>45 Rc A2/52100	20	.0130	.0250	.0250	.0250	.0500	.0500	.0500	.0760
Non-Ferrous	N	Plastic	90	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
		Kevlar/Graphite	115	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250
		Glass/Ceramic	25	.0130	.0250	.0250	.0250	.0500	.0500	.0500	.0760

Twister® Series 205 207 224 Metric

Workpiece Material Groups	Examples	Series			
		205	207	224	
		Vc (m/min)			
Steels	P	Low Carbon Steels 1018	55	-	55
		Alloy Steels (up to 35 Rc) 4140	45	-	50
		Alloy Steels (36-45 Rc) 4140	35	-	45
Austenitic	M	304/316	45	-	40
Precipitation Hardened Stainless Steels	M	17-4 PH	20	-	-
Cast Irons	K	Gray Cast Iron A48 Class 20/G4000	55	-	85
		Ductile Cast Iron A536/60-40-18	55	-	55
Special Alloys	S	Titanium 6AL-4V	25	-	-
		High Temp Alloys Inconel/Hastelloy/Waspelloy	20	-	-
Hardened Steels	H	>45 Rc A2/52100	15	-	-
Non-Ferrous	N	Plastic	90	90	120
		Kevlar/Graphite	-	115	120

 RPM Formula For Metric Drills Only - $RPM = (Vc \times 318.0) \div \text{Drill } \varnothing D^1$

Twister® Series 205 207 224 Metric

Recommended cutting data :: Conditions de coupe recommandées :: Empfohlene Schnittdaten :: Dati di taglio raccomandati
 :: Zalecane dane o cięciu (Zalacane parametry skrawania)

Workpiece Material Groups	Examples	Tool Diameter (mm)									
		1.0	1.5	3.0	6.0	10.0	12.0	16.0	20.0	26.0	
		Feed (mm/rev)									
Steels	P	Low Carbon Steels 1018	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
		Alloy Steels (up to 35 Rc) 4140	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
		Alloy Steels (36-45 Rc) 4140	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
Austenitic	M	304/316	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
Precipitation Hardened Stainless Steels		17-4 PH	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540
Cast Irons	K	Gray Cast Iron A48 Class 20/G4000	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
		Ductile Cast Iron A536/60-40-18	.0250	.0500	.0760	.1520	.2030	.2540	.2750	.3050	.3560
Special Alloys	S	Titanium 6AL-4V	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540
		High Temp Alloys Inconel/Hastelloy/Waspelloy	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540
Hardened Steels	H	>45 Rc A2/52100	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540
Non-Ferrous	N	Plastic	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540
		Kevlar/Graphite	.0060	.0127	.0500	.0760	.1010	.1520	.2030	.2250	.2540

Feedrate Formula For Metric Drills - Feed = RPM x mm/rev

Twister® Series 402 403 404 Metric

Workpiece Material Groups	Examples	Vc (m/min)	Tool Diameter (mm)						
			1.0	1.5	3.0	6.0	10.0	12.0	
			Feed (mm/rev)						
Steels	P	Low Carbon Steels 1018	55	.0125	.0250	.0380	.0760	.1020	.1270
		Alloy Steels (up to 35 Rc) 4140	50	.0125	.0250	.0380	.0760	.1020	.1270
		Alloy Steels (36-45 Rc) 4140	45	.0125	.0250	.0380	.0760	.1020	.1270
Stainless Steels	M	304/316	40	.0125	.0250	.0380	.0760	.1020	.1270
		17-4 PH	20	.0125	.0250	.0380	.0760	.1020	.1270
Cast Irons	K	Gray Cast Iron A48 Class 20/G4000	85	.0125	.0250	.0380	.0760	.1020	.1270
		Ductile Cast Iron A536/60-40-18	55	.0125	.0250	.0380	.0760	.1020	.1270
Special Alloys	S	Titanium 6AL-4V	25	.0125	.0250	.0380	.0760	.1020	.1270
		High Temp Alloys Inconel/Hastelloy/Waspelloy	10	.0125	.0250	.0380	.0760	.1020	.1270
Hardened Steels	H	>45 Rc A2/52100	15	.0125	.0250	.0380	.0760	.1020	.1270

RPM Formula For Metric Drills Only - RPM = (Vc x 318.0) ÷ Drill Ø D¹

Feedrate Formula For Metric Drills - Feed = RPM x mm/rev

HSSCo Platinum Drills Recommended cutting data

Conditions de coupe recommandées · Empfohlene Schnittdaten · Dati di taglio raccomandati · Zalecane dane o cięciu (Zalacane parametry skrawania)



Precision Cut PRM-KSN Multi-Purpose, short length

 Coupe de précision PRM-KSN Multifonctions, courte longueur · Präzisionsschnitt PRM-KSN Mehrzweckwerkzeug, kurze Länge
 Taglio di precisione PRM-KSN Universale, tipo corto · Precyzyjne cięcie (wiercenie) PRM-KSN Uniwersalna, krótkie

Workpiece	Stainless Steel		Carbon Steel		Alloy Steel Tools Steel		Alloy Steel Die Steel		Copper Alloy		Aluminum alloy	
	SUS 420, 440, 316 (30-40 HRC)		SS400, S45C, FC (Up to 25 HRC)		SCM, SK (25-35 HRC)		SCM, SK (35-40 HRC)					
Diameter (mm)	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev
0.3	12,000	0.01	20,000	0.01	19,000	0.01	15,000	0.01	20,000	0.01	20,000	0.01
0.4	9,500	0.01	16,000	0.01	14,000	0.01	11,000	0.01	16,000	0.02	20,000	0.02
0.5	7,700	0.02	13,000	0.02	12,000	0.02	9,000	0.01	12,500	0.03	20,000	0.03
0.6	6,400	0.02	11,000	0.02	10,000	0.02	7,400	0.02	10,500	0.03	20,000	0.04
0.7	5,500	0.03	9,000	0.03	8,800	0.03	6,400	0.02	9,000	0.04	18,000	0.05
0.8	4,400	0.03	8,000	0.04	7,700	0.03	5,600	0.03	8,000	0.04	16,000	0.05
0.9	4,200	0.04	7,600	0.04	6,800	0.03	5,000	0.03	7,500	0.04	15,500	0.06
1.0	4,000	0.04	7,200	0.05	6,200	0.04	4,500	0.03	7,000	0.05	15,500	0.06



Precision Cut PRXS-KST X Shape, for stainless steel drilling, short length

 Coupe de précision PRXS-KST Forme X, pour le perçage de l'acier inoxydable, courte longueur
 Präzisionsschnitt PRXS-KST X-Form, zum Bohren von rostfreiem Stahl, kurze Länge
 Taglio di precisione PRXS-KST Forma X, per foratura dell'acciaio inossidabile, tipo corto
 Precyzyjne wiertło PRXS-KST kształt X, do wiercenia w stali nierdzewnej, krótkie (krótka długość)


Precision Cut PRXS-KMT X Shape, for stainless steel drilling, medium length

 Coupe de précision PRXS-KMT Forme X, pour le perçage de l'acier inoxydable, longueur moyenne
 Präzisionsschnitt PRXS-KMT X-Form, zum Bohren von rostfreiem Stahl, mittlere Länge
 Taglio di precisione PRXS-KMT Forma X, per foratura dell'acciaio inossidabile, tipo medio
 Precyzyjne wiertło PRXS-KMT kształt X, do wiercenia w stali nierdzewnej, średni (średnia długość)

Workpiece	Stainless Steel								Steel		Brass & Copper Alloy		Aluminum Alloy	
	AISI SUS 304 SUS 316		AISI SUS 420 SUS 440		AISI SUS 430 SUS 330		AISI SUS 630 SUS 631		S45C S540		C1020 2600		A5052 ADC 12	
Diameter (mm)	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev	rpm	mm/rev
2.0	2,700	0.06	2,800	0.09	3,000	0.09	1,600	0.04	5,500	0.09	4,500	0.09	9,000	0.09
3.0	1,800	0.08	1,900	0.13	2,000	0.13	1,100	0.05	3,700	0.13	2,800	0.13	2,800	0.13
4.0	1,350	0.10	1,400	0.15	1,500	0.15	800	0.07	2,800	0.15	2,200	0.15	2,200	0.15
5.0	1,080	0.12	1,200	0.18	1,300	0.18	650	0.09	2,200	0.18	1,800	0.18	1,800	0.18
6.0	900	0.15	950	0.19	1,000	0.19	550	0.10	1,800	0.19	1,400	0.19	1,400	0.19
8.0	680	0.19	720	0.20	800	0.20	400	0.14	1,400	0.20	1,100	0.20	1,100	0.20
10.0	540	0.21	570	0.22	600	0.22	320	0.18	1,100	0.22	900	0.22	900	0.22
12.0	450	0.23	480	0.25	500	0.25	280	0.19	930	0.25	710	0.25	710	0.25
13.0	420	0.25	440	0.26	450	0.26	250	0.20	880	0.26	660	0.26	660	0.26

* The rpm & mm/rev shall be 10% off for PRXS-KMT