Drilling

CUTTING TOOL CATALOGUE

Drilling Holder Denomination System

HP	-	2D	-	255	-	S32	-	S07
1		2		3		4		5

1- Drilling Holder Series

HP Series
HY Series

2- Aspectratio

Lu/Dc=2
Lu/Dc=3
Lu/Dc=4
Lu/Dc=5

3- Nominal Diameter of Drilling Holder

255-- Drill Dia. Dc 25.5mm

4- Shank Dia.

S32--- Fully flattened side
Side lock, Shank Dia. 32mm

4- Insert

S07-- Suitable for SPMT07 insert
SP03-- Suitable for N0.03 insert

Drilling Holder Tolerance and Hole Tolerance---HPseries

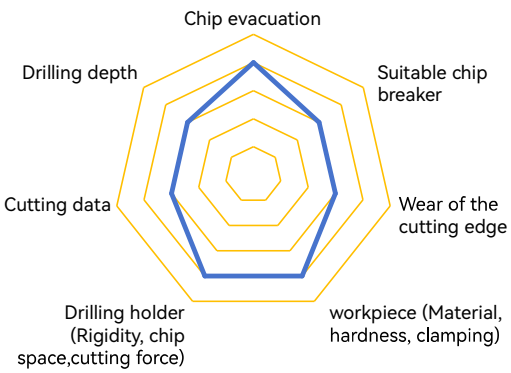
HP Series		Ø13 - Ø21.5mm	Ø22 - Ø50mm
2*DC	Holder tolerance	0,-0.1	0,-0.1
	Hole tolerance	-0.1 ~ +0.15	-0.1 ~ +0.15
3*DC	Holder tolerance	0,-0.1	0,-0.1
	Hole tolerance	-0.1 ~ +0.18	-0.12 ~ +0.2
4*DC	Holder tolerance	0,-0.1	0,-0.1
	Hole tolerance	-0.15 ~ +0.20	-0.15 ~ +0.25

Drilling Holder Tolerance and Hole Tolerance---HYseries

HY Series		Ø13 - Ø21.5mm	Ø22 - Ø50mm
2*DC	Holder tolerance	0,+0.1	0,+0.1
	Hole tolerance	-0.1 ~ +0.15	-0.1 ~ +0.15
3*DC	Holder tolerance	0,+0.1	0,+0.1
	Hole tolerance	-0.1 ~ +0.18	-0.12 ~ +0.2
4*DC	Holder tolerance	0,+0.1	0,+0.1
	Hole tolerance	-0.15 ~ +0.20	-0.15 ~ +0.25

HY series drilling holder is easier to obtain positive tolerance hole diameters, but machining strategies need to be adjusted by the influence factors of drilling diameter.

Influence factors of drilling diameter



Grade Introduction

P Carbon steel, alloy steel, cast steel/forged steel

Basic grade

AP301U P25(P15-P35)
PVD coated carbide grade, suitable for drilling of steels, stainless steel. High strength and wear resistance ultra fine carbide substrate with nanostructured PVD coating in controllable layers, high coating adhesion, wear-resistance and strength.

AP351U P35(P30-P45)
PVD coated carbide grade for drilling of steels, stainless steel, heat-resistant alloys under unstable working conditions. Composite nanostructured coatings are deposited on the high toughness carbide substrate, offering better wear resistance and impact resistance.

AP351M P30(P25-P40)
PVD coated carbide grade. Suitable for drilling of steels, stainless steel, heat-resistant alloys in general working conditions. Good toughness and wear resistance ultrafine crystalline substrate combined with nanostructure PVD coating. Good thermal cracking resistance, wear resistance and coating strength.

M Austenitic/artensitic stainless steel

Basic grade

AP351M M30(M20-M35)
PVD coated carbide grade. Suitable for drilling and machining of steels, stainless steel, heat-resistant alloys under general working conditions. Nanostructured coatings are deposited on the high strength, high wear resistance ultra-fine grain structure carbide substrate. Good thermal cracking resistance, wear resistance and coating strength.

S Heat-resistant alloys (Ni-based), titanium alloys

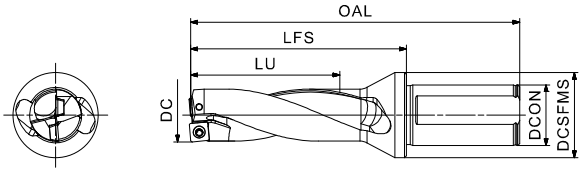
Basic grade

AP351M S30(S20-S35)
PVD coated carbide grade. Suitable for drilling and machining of steels, stainless steel, heat-resistant alloys under general working conditions. Nanostructured coatings are deposited on the high strength, high wear resistance ultra-fine grain structure carbide substrate. Good thermal cracking resistance, wear resistance and coating strength.

AP351U S35(S25-S40)
PVD coated carbide grade for drilling of steels, stainless steel, heat-resistant alloys under unstable working conditions. Composite nanostructured coatings are deposited on the high toughness carbide substrate, offering better wear resistance and impact resistance.

HP Series Drilling Holder

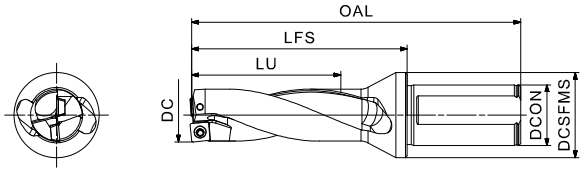
LU/DC=2



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-2D130-S20-S05	13.0	29	99	20	49	25	0.15	SPMT 050204E-DP	ST020043	FT-T06
HP-2D135-S20-S05	13.5	30	100	20	50	25	0.15			
HP-2D140-S20-S05	14.0	31	101	20	51	25	0.15			
HP-2D145-S20-S05	14.5	32	102	20	52	25	0.16			
HP-2D150-S20-S05	15.0	33	103	20	53	25	0.16			
HP-2D155-S25-S06	15.5	34	115	25	59	32	0.25	SPMT 060204E-DP	ST022055	FT-T06
HP-2D160-S25-S06	16.0	35	116	25	60	32	0.25			
HP-2D165-S25-S06	16.5	36	117	25	61	32	0.25			
HP-2D170-S25-S06	17.0	37	118	25	62	32	0.28			
HP-2D175-S25-S06	17.5	38	119	25	63	32	0.28			
HP-2D180-S25-S06	18.0	39	120	25	64	32	0.29			
HP-2D185-S25-S06	18.5	40	121	25	65	32	0.29			
HP-2D190-S25-S06	19.0	41	122	25	66	32	0.30			
HP-2D195-S25-S06	19.5	42	123	25	67	32	0.30			
HP-2D200-S25-S06	20.0	43	124	25	68	32	0.31			
HP-2D205-S25-S06	20.5	44	125	25	69	32	0.32			
HP-2D210-S25-S06	21.0	45	126	25	70	32	0.32			
HP-2D215-S25-S06	21.5	46	127	25	71	32	0.32			
HP-2D220-S32-S07	22.0	47	137	32	77	40	0.52	SPMT 07T308E-DP	ST025065	FT-T08
HP-2D225-S32-S07	22.5	48	138	32	78	40	0.52			
HP-2D230-S32-S07	23.0	49	139	32	79	40	0.54			
HP-2D235-S32-S07	23.5	50	140	32	80	40	0.54			
HP-2D240-S32-S07	24.0	51	141	32	81	40	0.55			
HP-2D245-S32-S07	24.5	52	142	32	82	40	0.55			
HP-2D250-S32-S07	25.0	53	143	32	83	40	0.56			
HP-2D255-S32-S07	25.5	54	144	32	84	40	0.56			
HP-2D260-S32-S07	26.0	55	145	32	85	40	0.58			
HP-2D265-S32-S07	26.5	56	146	32	86	40	0.58			
HP-2D270-S32-S07	27.0	57	147	32	87	40	0.60			
HP-2D275-S32-S07	27.5	58	148	32	88	40	0.60			

HP Series Drilling Holder

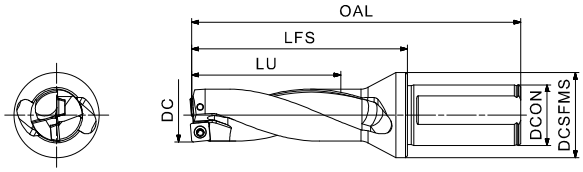
LU/DC=2



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-2D280-S32-S09	28.0	59	149	32	89	40	0.63	SPMT 090408E-DP	ST035084X	FT-T15
HP-2D285-S32-S09	28.5	60	150	32	90	40	0.63			
HP-2D290-S32-S09	29.0	61	151	32	91	40	0.65			
HP-2D295-S32-S09	29.5	63	153	32	93	40	0.65			
HP-2D300-S32-S09	30.0	65	155	32	95	40	0.65			
HP-2D310-S32-S09	31.0	67	157	32	97	40	0.68			
HP-2D320-S32-S09	32.0	69	159	32	99	40	0.70			
HP-2D330-S32-S09	33.0	71	161	32	101	40	0.70			
HP-2D340-S40-S11	34.0	73	178	40	108	50	1.00	SPMT 110408E-DP	ST040100H	FT-T15
HP-2D350-S40-S11	35.0	75	180	40	110	50	1.10			
HP-2D360-S40-S11	36.0	77	182	40	112	50	1.10			
HP-2D370-S40-S11	37.0	79	184	40	114	50	1.15			
HP-2D380-S40-S11	38.0	81	186	40	116	50	1.20			
HP-2D390-S40-S11	39.0	83	188	40	118	50	1.20			
HP-2D400-S40-S11	40.0	85	190	40	120	50	1.30			
HP-2D410-S40-S11	41.0	87	192	40	122	50	1.40			
HP-2D420-S40-S14	42.0	89	194	40	124	50	1.40	SPMT 140512E-DP	ST050126	FT-T20
HP-2D430-S40-S14	43.0	91	196	40	126	50	1.60			
HP-2D440-S40-S14	44.0	93	198	40	128	50	1.60			
HP-2D450-S40-S14	45.0	95	200	40	130	50	1.70			
HP-2D460-S40-S14	46.0	97	202	40	132	50	1.70			
HP-2D470-S40-S14	47.0	99	204	40	134	50	1.75			
HP-2D480-S40-S14	48.0	101	206	40	136	50	1.80			
HP-2D490-S40-S14	49.0	103	208	40	138	50	1.85			
HP-2D500-S40-S14	50.0	105	210	40	140	50	1.90			

HP Series Drilling Holder

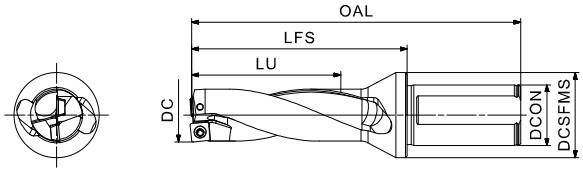
LU/DC=3



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-3D130-S20-S05	13.0	42	112	20	62	25	0.16	SPMT 050204E-DP	ST020043	FT-T06
HP-3D135-S20-S05	13.5	44	114	20	64	25	0.16			
HP-3D140-S20-S05	14.0	45	115	20	65	25	0.16			
HP-3D145-S20-S05	14.5	47	117	20	67	25	0.16			
HP-3D150-S20-S05	15.0	48	118	20	68	25	0.17			
HP-3D155-S25-S06	15.5	50	131	25	75	32	0.27	SPMT 060204E-DP	ST022055	FT-T06
HP-3D160-S25-S06	16.0	51	132	25	76	32	0.27			
HP-3D165-S25-S06	16.5	53	134	25	78	32	0.27			
HP-3D170-S25-S06	17.0	54	135	25	79	32	0.29			
HP-3D175-S25-S06	17.5	56	137	25	81	32	0.29			
HP-3D180-S25-S06	18.0	57	138	25	82	32	0.30			
HP-3D185-S25-S06	18.5	59	140	25	84	32	0.30			
HP-3D190-S25-S06	19.0	60	141	25	85	32	0.31			
HP-3D195-S25-S06	19.5	62	143	25	87	32	0.31			
HP-3D200-S25-S06	20.0	63	144	25	88	32	0.31			
HP-3D205-S25-S06	20.5	65	146	25	90	32	0.33			
HP-3D210-S25-S06	21.0	66	147	25	91	32	0.33			
HP-3D215-S25-S06	21.5	68	149	25	93	32	0.33			
HP-3D220-S32-S07	22.0	69	159	32	99	40	0.57	SPMT 07T308E-DP	ST025065	FT-T08
HP-3D225-S32-S07	22.5	71	161	32	101	40	0.57			
HP-3D230-S32-S07	23.0	72	162	32	102	40	0.60			
HP-3D235-S32-S07	23.5	74	164	32	104	40	0.60			
HP-3D240-S32-S07	24.0	75	165	32	105	40	0.62			
HP-3D245-S32-S07	24.5	77	167	32	107	40	0.62			
HP-3D250-S32-S07	25.0	78	168	32	108	40	0.63			
HP-3D255-S32-S07	25.5	80	170	32	110	40	0.63			
HP-3D260-S32-S07	26.0	81	171	32	111	40	0.63			
HP-3D265-S32-S07	26.5	83	173	32	113	40	0.64			
HP-3D270-S32-S07	27.0	84	174	32	114	40	0.65			
HP-3D275-S32-S07	27.5	86	176	32	116	40	0.67			

HP Series Drilling Holder

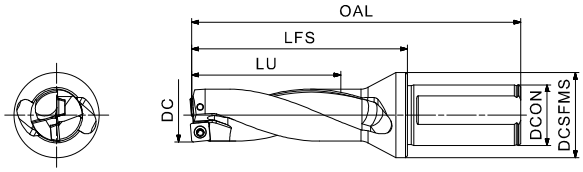
LU/DC=3



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-3D280-S32-S09	28.0	87	177	32	117	40	0.67	SPMT 090408E-DP	ST035084X	FT-T15
HP-3D285-S32-S09	28.5	89	179	32	119	40	0.69			
HP-3D290-S32-S09	29.0	90	180	32	120	40	0.70			
HP-3D295-S32-S09	29.5	93	183	32	123	40	0.72			
HP-3D300-S32-S09	30.0	95	185	32	125	40	0.71			
HP-3D310-S32-S09	31.0	98	188	32	128	40	0.75			
HP-3D320-S32-S09	32.0	101	191	32	131	40	0.80			
HP-3D330-S32-S09	33.0	104	194	32	134	40	0.85			
HP-3D340-S40-S11	34.0	107	212	40	142	50	1.20	SPMT 110408E-DP	ST040100H	FT-T15
HP-3D350-S40-S11	35.0	110	215	40	145	50	1.20			
HP-3D360-S40-S11	36.0	113	218	40	148	50	1.20			
HP-3D370-S40-S11	37.0	116	221	40	151	50	1.30			
HP-3D380-S40-S11	38.0	119	224	40	154	50	1.35			
HP-3D390-S40-S11	39.0	122	227	40	157	50	1.40			
HP-3D400-S40-S11	40.0	125	230	40	160	50	1.45			
HP-3D410-S40-S11	41.0	128	233	40	163	50	1.60			
HP-3D420-S40-S14	42.0	131	236	40	166	50	1.65	SPMT 140512E-DP	ST050126	FT-T20
HP-3D430-S40-S14	43.0	134	239	40	169	50	1.70			
HP-3D440-S40-S14	44.0	137	242	40	172	50	1.75			
HP-3D450-S40-S14	45.0	140	245	40	175	50	1.90			
HP-3D460-S40-S14	46.0	143	248	40	178	50	1.95			
HP-3D470-S40-S14	47.0	146	251	40	181	50	2.10			
HP-3D480-S40-S14	48.0	149	254	40	184	50	2.30			
HP-3D490-S40-S14	49.0	152	257	40	187	50	2.30			
HP-3D500-S40-S14	50.0	155	260	40	190	50	2.35			

HP Series Drilling Holder

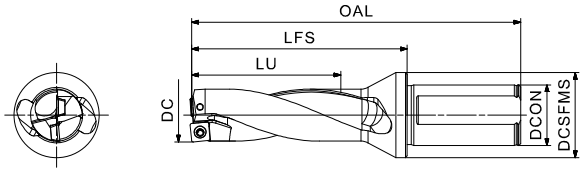
LU/DC=4



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-4D130-S20-S05	13.0	55	125	20	75	25	0.17			
HP-4D135-S20-S05	13.5	57	127	20	77	25	0.17			
HP-4D140-S20-S05	14.0	59	129	20	79	25	0.17	SPMT 050204E-DP	ST020043	FT-T06
HP-4D145-S20-S05	14.5	61	131	20	81	25	0.17			
HP-4D150-S20-S05	15.0	63	133	20	83	25	0.18			
HP-4D155-S25-S06	15.5	65	146	25	90	32	0.28			
HP-4D160-S25-S06	16.0	67	148	25	92	32	0.28			
HP-4D165-S25-S06	16.5	69	150	25	94	32	0.30			
HP-4D170-S25-S06	17.0	71	152	25	96	32	0.30			
HP-4D175-S25-S06	17.5	73	154	25	98	32	0.31			
HP-4D180-S25-S06	18.0	75	156	25	100	32	0.32			
HP-4D185-S25-S06	18.5	77	158	25	102	32	0.33	SPMT 060204E-DP	ST022055	FT-T06
HP-4D190-S25-S06	19.0	79	160	25	104	32	0.34			
HP-4D195-S25-S06	19.5	81	162	25	106	32	0.35			
HP-4D200-S25-S06	20.0	83	164	25	108	32	0.36			
HP-4D205-S25-S06	20.5	85	166	25	110	32	0.37			
HP-4D210-S25-S06	21.0	87	168	25	112	32	0.37			
HP-4D215-S25-S06	21.5	89	170	25	114	32	0.38			
HP-4D220-S32-S07	22.0	91	181	32	121	40	0.57			
HP-4D225-S32-S07	22.5	93	183	32	123	40	0.57			
HP-4D230-S32-S07	23.0	95	185	32	125	40	0.62			
HP-4D235-S32-S07	23.5	97	187	32	127	40	0.62			
HP-4D240-S32-S07	24.0	99	189	32	129	40	0.65			
HP-4D245-S32-S07	24.5	101	191	32	131	40	0.65			
HP-4D250-S32-S07	25.0	103	193	32	133	40	0.65	SPMT 07T308E-DP	ST025065	FT-T08
HP-4D255-S32-S07	25.5	105	195	32	135	40	0.65			
HP-4D260-S32-S07	26.0	107	197	32	137	40	0.68			
HP-4D265-S32-S07	26.5	109	199	32	139	40	0.70			
HP-4D270-S32-S07	27.0	111	201	32	141	40	0.71			
HP-4D275-S32-S07	27.5	113	203	32	143	40	0.72			

HP Series Drilling Holder

LU/DC=4



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HP-4D280-S32-S09	28.0	115	205	32	145	40	0.74	SPMT 090408E-DP	ST035084X	FT-T15
HP-4D285-S32-S09	28.5	117	207	32	147	40	0.76			
HP-4D290-S32-S09	29.0	120	210	32	150	40	0.78			
HP-4D295-S32-S09	29.5	123	213	32	153	40	0.80			
HP-4D300-S32-S09	30.0	125	215	32	155	40	0.80			
HP-4D310-S32-S09	31.0	129	219	32	159	40	0.85			
HP-4D320-S32-S09	32.0	133	223	32	163	40	0.90			
HP-4D330-S32-S09	33.0	137	227	32	167	40	0.95			
HP-4D340-S40-S11	34.0	141	246	40	176	50	1.30	SPMT 110408E-DP	ST040100H	FT-T15
HP-4D350-S40-S11	35.0	145	250	40	180	50	1.36			
HP-4D360-S40-S11	36.0	149	254	40	184	50	1.43			
HP-4D370-S40-S11	37.0	153	258	40	188	50	1.48			
HP-4D380-S40-S11	38.0	157	262	40	192	50	1.54			
HP-4D390-S40-S11	39.0	161	266	40	196	50	1.62			
HP-4D400-S40-S11	40.0	165	270	40	200	50	1.77			
HP-4D410-S40-S11	41.0	169	274	40	204	50	1.86			
HP-4D420-S40-S14	42.0	173	278	40	208	50	1.98	SPMT 140512E-DP	ST050126	FT-T20
HP-4D430-S40-S14	43.0	177	282	40	212	50	2.01			
HP-4D440-S40-S14	44.0	181	286	40	216	50	2.18			
HP-4D450-S40-S14	45.0	185	290	40	220	50	2.22			
HP-4D460-S40-S14	46.0	189	294	40	224	50	2.60			
HP-4D470-S40-S14	47.0	193	298	40	228	50	2.60			
HP-4D480-S40-S14	48.0	197	302	40	232	50	2.90			
HP-4D490-S40-S14	49.0	201	306	40	236	50	2.90			
HP-4D500-S40-S14	50.0	205	310	40	240	50	3.09			

Drilling Insert Denomination System

S	P	M	T
1	2	3	4

1- Shape/Code

S

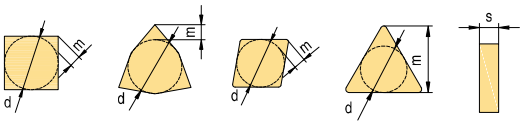
W

2- Clearance Angle

A	B	C	D	E
				

F	G	N	P	O
				Other clearance angle

3- Tolerance



Class	Unit	In.Circle dimension d	Nose height m	Thicknessss
A	mm	± 0,025	± 0,005	± 0,025
C	mm	± 0,025	± 0,013	± 0,025
E	mm	± 0,025	± 0,025	± 0,025
F	mm	± 0,013	± 0,005	± 0,025
G	mm	± 0,025	± 0,025	± 0,13
H	mm	± 0,013	± 0,013	± 0,025
J	mm	*	± 0,005	± 0,025
K	mm	*	± 0,013	± 0,025
L	mm	*	± 0,025	± 0,025
M	mm	*	*	± 0,127
U	mm	*	*	± 0,127
N	mm	*	*	± 0,025

* For details refer to right and below tables

Shape: C, E, H, M, O, P, S, T, R, W				
IC	d		m	
	J,K,L,M,N	U	M, N	U
4.76	± 0,05	± 0,08	± 0,08	± 0,13
5.56	± 0,05	± 0,08	± 0,08	± 0,13
6	± 0,05	± 0,08	± 0,08	± 0,13
6.35	± 0,05	± 0,08	± 0,08	± 0,13
7.94	± 0,05	± 0,08	± 0,08	± 0,13
8	± 0,05	± 0,08	± 0,08	± 0,13
9.525	± 0,05	± 0,08	± 0,08	± 0,13
10	± 0,05	± 0,08	± 0,08	± 0,13
12	± 0,08	± 0,13	± 0,13	± 0,2
12.7	± 0,08	± 0,13	± 0,13	± 0,2
15.875	± 0,1	± 0,18	± 0,15	± 0,27
16	± 0,1	± 0,18	± 0,15	± 0,27
19.05	± 0,1	± 0,18	± 0,15	± 0,27
20	± 0,1	± 0,18	± 0,15	± 0,27
25	± 0,13	± 0,25	± 0,18	± 0,38
25.4	± 0,13	± 0,25	± 0,18	± 0,38
31.75	± 0,15	± 0,25	± 0,2	± 0,38
32	± 0,15	± 0,25	± 0,2	± 0,38

M&N shape	D shape		V shape	
IC	d	m	d	m
5.56	± 0,05	± 0,11		
6.35	± 0,05	± 0,11	± 0,05	± 0,16
7.94	± 0,05	± 0,11	± 0,05	± 0,16
9.525	± 0,05	± 0,11	± 0,05	± 0,16
12.7	± 0,08	± 0,15	± 0,08	± 0,2
15.875	± 0,10	± 0,18	± 0,10	± 0,27
19.05	± 0,10	± 0,18	± 0,10	± 0,27

4- Clamping Type

A	B	C	F	G
				

H	J	M	N	Q
				

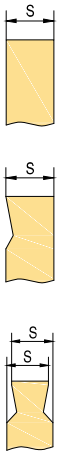
R	T	U	W	Z
				

06	02	04	E	-	DP
5	6	7	8	-	9

5- Cutting Edge Length

In.Circle Dimension (mm)	S Code	S Length	W Code	W Length
5.56			03	3.8
6.35	06	6.35	04	4.3
7.94			05	5.4
8.0	08	8.0		
9.525	09	9.525	06	6.5
12.7	12	12.7	08	8.7

6- Insert Thickness

Thickness description	Thickness mark	Example		
Insert thickness "S" refers to the distance between cutting edge nose and bottom		00	=	0.79
		T0	=	0.99
		01	=	1.59
		T1	=	1.98
		02	=	2.38
		T2	=	2.58
		03	=	3.18
		T3	=	3.97
		04	=	4.76
		T4	=	4.96
		05	=	5.56
		T5	=	5.95
		06	=	6.35
		07	=	7.94
		09	=	9.53
		11	=	11.11
		12	=	12.70
		14	=	14.29
		15	=	15.88

7- Corner Radius

Example		
04	=	0.4
08	=	0.8
12	=	1.2

8- Cutting Edge Shape

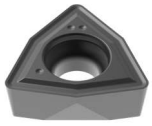
Example	Description
E	Honed cutting edge
F	Sharp cutting edge
T	Negative land

9- Geometry Code

DP

1. DP geometry has high efficiency. Suitable for short hole high speed drilling.
2. Strong square insert with reinforced geometry offers excellent hole straightness.
3. Drilling holder with helical flute provides excellent chip evacuation and high hole precision.

DU

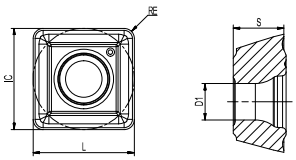


1. Suitable cutting angle makes perfect balance for the cutting force.
2. General purpose geometry combined with two grades are suitable for P, M, K, S materials, especially good for the chip control in soft materials.
3. Obtains good surface finish.
4. Good versatility. It's suitable for rotating and non-rotating machining.

Drilling Grade Application Guide

Drilling insert grade ISO group												
Material Group	Materials	ISO	Coated									Uncoated
			PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	CVD	CVD	
P	Unalloy steels / Alloyed steels	P01	AP301U										
		P05											
		P10											
		P15											
		P20		AP351M	AP351U								
		P25											
		P30											
		P35											
		P40											
		P45											
		P50											
M	Stainless steels	M01											
		M05											
		M10											
		M15											
		M20											
		M25		AP351M									
		M30			AP351U								
		M35											
		M40											
		M45											
K	Cast iron	K01											
		K05											
		K10											
		K15											
		K20											
		K25											
		K30											
		K35											
		K40											
		K45											
		K50											
N	Aluminum/ Aluminum alloys	N01											
		N05											
		N10											
		N15											
		N20											
		N25											
		N30											
S	Heat resistant alloys	S01											
		S05											
		S10											
		S15											
		S20											
		S25		AP351M									
		S30			AP351U								
		S35											
		S40											
		S45											

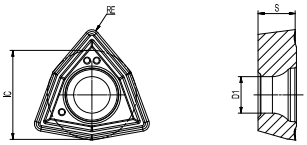
SPMT-DP Drilling Insert

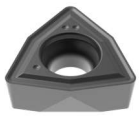


Inserts	Product code	Dimension (mm)					Machining conditions: ● Good Conditions ⇕ General Conditions ✱ Bad Conditions					
							●	✱	⇕	●	●	
							P			M	K	N
		L	IC	S	RE	D1	AP301U	AP351U	AC301P	AP351M	AP301U	AW100K
	**SPMT 050204E-DP**	5	5	2.38	0.4	2.25	●	●	●	●	●	
	SPMT 060204E-DP	6	6	2.38	0.4	2.61	●	●	●	●	●	
	SPMT 07T308E-DP	7.94	7.94	3.97	0.8	2.85	●	●	●	●	●	
	SPMT 090408E-DP	9.8	9.8	4.3	0.8	4.05	●	●	●	●	●	
	SPMT 110408E-DP	11.5	11.5	4.8	0.8	4.45	●	●	●	●	●	
	SPMT 140512E-DP	14.3	14.3	5.2	1.2	5.75	●	●	●	●	●	

● : Standard stock ○ : Made-to-Order

WCMT-DU Drilling Insert



Inserts	Product code	Dimension (mm)				Machining conditions: ● Good Conditions ⇕ General Conditions ✱ Bad Conditions					
						●	✱	⇕	●	●	
						P			M	K	N
		IC	S	RE	D1	AP301U	AP351U	AC301P	AP351M	AP301U	AW100K
	**WCMT 030208E-DU**	5.56	2.38	0.8	2.8	●	●				
	WCMT 040208E-DU	6.35	2.38	0.8	3.0	●	●				
	WCMT 050308E-DU	7.94	3.18	0.8	3.4	●	●				
	WCMT 06T308E-DU	9.53	3.97	0.8	3.9	●	●				
	WCMT 080412E-DU	12.7	4.76	1.2	4.4	●	●				

Remark: DU series are universal inserts, drilling holders are not provided.

● : Standard stock ○ : Made-to-Order

Cutting Data Recommendation

Materials				SP drilling insert series grade application range & cutting parameter recommendation																	
ISO	Material classification	Tensile strength (N/mm^2)	Brinell hardness (HB)	Grade												Feed (mm/rev)					
				AP301U			AP351U			AP351M			AC301P								
				P15-35			P30-45			P20-35			P25-40								
				M15-35			M30-45			M20-35			-								
				-			-			-			-								
				-			S 30-45			S20-35			-								
				-			-			-			-								
				-			-			-											
				Feed (mm/rev)																	
				Max	Med	Min	Max	Med	Min	Max	Med	Min	Max	Med	Min	∅13mm ~ ∅15mm	∅15.5mm ~ ∅21.5mm	∅22mm ~ ∅27.5mm	∅28mm ~ ∅33mm	∅34mm ~ ∅41mm	∅42mm ~ ∅50mm
				Cutting speed (m/min)												SPMT 050204E-DP	SPMT 060204E-DP	SPMT 07T308E-DP	SPMT 090408E-DP	SPMT 110408E-DP	SPMT 140512E-DP
P	Non-alloyed steel	<600	<180	260	240	224	220	185	150	240	220	200	200	175	150	0.05-0.08	0.06-0.10	0.06-0.12	0.07-0.13	0.08-0.15	0.08-0.16
		<950	<280	250	210	170	200	170	140	230	190	160	190	160	135	0.06-0.12	0.08-0.15	0.10-0.18	0.12-0.22	0.12-0.24	0.13-0.25
	Alloyed steel	700-950	200-280	240	200	160	190	160	130	220	180	150	180	150	120	0.06-0.10	0.08-0.14	0.10-0.18	0.12-0.22	0.12-0.23	0.13-0.24
		950-1200	280-355	210	170	130	170	130	90	190	150	110	160	130	100	0.06-0.12	0.08-0.15	0.10-0.18	0.12-0.22	0.12-0.24	0.13-0.25
		1200-1400	355-415	170	140	110	160	120	80	150	120	90	140	110	80	0.06-0.10	0.08-0.14	0.10-0.18	0.12-0.22	0.12-0.23	0.13-0.24
M	Duplex stainless steel	778	230	260	200	140	180	135	90	240	180	120	-	-	-	0.05-0.10	0.06-0.12	0.08-0.15	0.09-0.16	0.10-0.17	0.11-0.18
	AusteniticStainless steel	675	200	220	170	120	120	65	60	200	150	100	-	-	-	0.05-0.10	0.06-0.12	0.08-0.15	0.09-0.16	0.10-0.17	0.11-0.18
	Precipitation-hardening stainless steel	1013	300	180	140	100	90	65	40	160	120	80	-	-	-	-	-	-	-	-	-
K	Grey cast iron	700	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Nodular cast iron	880	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Malleable cast iron	800	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	Aluminum	260	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	Fe-based alloy	943	280	-	-	-	40	30	20	45	35	25	-	-	-	-	-	-	-	-	-
	Co-based alloy	1076	320	-	-	-	35	25	15	40	30	20	-	-	-	-	-	-	-	-	-
	Ni-based alloy	1177	350	-	-	-	35	25	15	40	30	20	-	-	-	-	-	-	-	-	-
	Titanium alloys	1262	370	-	-	-	40	30	20	45	35	25	-	-	-	0.05-0.10	0.06-0.14	0.08-0.18	0.10-0.22	0.14-0.23	0.15-0.24
H	Hardened steel	-	50-60HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chilled cast iron	-	55HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolant.

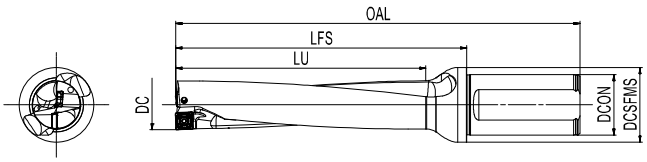
Cutting Data Recommendation

Materials				WC drilling insert series grade application range & cutting parameter recommendation										
ISO	Material classification	Tensile strength (N/mm^2)	Brinell hardness (HB)	Grade						Feed (mm/rev)				
				AP301U			AP351U							
				PVD Coated			PVD Coated							
				P15-35			P30-45							
				M15-35			M30-45							
				-			-							
				-			S 30-45							
				-			-							
				-			-							
				Feed (mm/rev)										
				Max	Med	Min	Max	Med	Min	∅16mm ~ ∅20 mm	∅20.5mm ~ ∅25mm	∅25.5mm ~ ∅30 mm	∅31mm ~ ∅41 mm	∅41mm ~ ∅58 mm
				Cutting speed (m/min)						WCMT 030204E-DU	WCMT 040204E-DU	WCMT 050308E-DU	WCMT 06T308E-DU	WCMT 080408E-DU
P	Non-alloyed steel	<600	<180	260	240	224	220	185	150	0.04-0.065	0.07-0.09	0.07-0.10	0.08-0.11	0.09-0.13
		<950	<280	250	210	170	200	170	140	0.05-0.07	0.09-0.09	0.07-0.10	0.08-0.11	0.09-0.13
	Alloyed steel	700-950	200-280	240	200	160	190	160	130	0.05-0.09	0.065-0.14	0.08-0.16	0.10-0.18	0.10-0.20
		950-1200	280-355	210	170	130	170	130	90	0.04-0.07	0.065-0.11	0.07-0.14	0.09-0.15	0.10-0.18
		1200-1400	355-415	170	140	110	160	120	80	0.04-0.065	0.05-0.9	0.07-0.10	0.08-0.12	0.09-0.13
M	Duplex stainless steel	778	230	260	200	140	180	135	90	0.04-0.07	0.065-0.11	0.08-0.14	0.08-0.11	0.09-0.13
	Austenitic stainless steel	675	200	220	170	120	120	65	60	0.04-0.065	0.065-0.10	0.08-0.12	0.08-0.10	0.08-0.11
	Precipitation-hardening stainless steel	1013	300	180	140	100	90	65	40	-	-	-	-	-
K	Grey cast iron	700	220	-	-	-	-	-	-	-	-	-	-	-
	Nodular cast iron	880	260	-	-	-	-	-	-	-	-	-	-	-
	Malleable cast iron	800	250	-	-	-	-	-	-	-	-	-	-	-
N	Aluminum	260	75	-	-	-	-	-	-	-	-	-	-	-
	Aluminum alloy	447	130	-	-	-	-	-	-	-	-	-	-	-
S	Fe-based alloy	943	280	-	-	-	40	30	20	-	-	-	-	-
	Co-based alloy	1076	320	-	-	-	35	25	15	-	-	-	-	-
	Ni-based alloy	1177	350	-	-	-	35	25	15	-	-	-	-	-
	Titanium alloys	1262	370	-	-	-	40	30	20	0.05-0.10	0.06-0.11	0.07-0.12	0.08-0.13	0.08-0.14
H	Hardened steel	-	50-60HRC	-	-	-	-	-	-	-	-	-	-	-
	Chilled cast iron	-	55HRC	-	-	-	-	-	-	-	-	-	-	-

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolant.

HY Series Drilling Holder

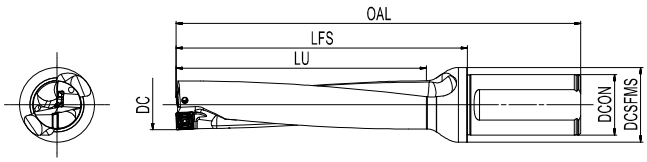
LU/DC=2



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-2D140-S20-SP02	14.0	31	94	20	44	25	0.16	XONT 020204E SPET 020204E	SP020045	FT-TP06
HY-2D145-S20-SP02	14.5	33	96	20	46	25	0.16			
HY-2D150-S20-SP02	15.0	34	97	20	47	25	0.16			
HY-2D155-S20-SP02	15.5	36	99	20	49	25	0.17			
HY-2D160-S20-SP02	16.0	36	101	20	51	25	0.17			
HY-2D165-S20-SP03	16.5	37	102	20	52	25	0.17	XONT 030305E SPET 030305E	SP022049	FT-TP07
HY-2D170-S25-SP03	17.0	38	109	25	53	32	0.28			
HY-2D175-S25-SP03	17.5	40	111	25	55	32	0.29			
HY-2D180-S25-SP03	18.0	40	112	25	56	32	0.29			
HY-2D185-S25-SP03	18.5	40	112	25	56	32	0.29			
HY-2D188-S25-SP03	18.8	40	112	25	56	32	0.29			
HY-2D190-S25-SP03	19.0	42	114	25	58	32	0.30			
HY-2D195-S25-SP03	19.5	44	116	25	60	32	0.31			
HY-2D200-S25-SP04	20.0	44	117	25	61	32	0.32	XONT 040305E SPET 040305E	SP025072	FT-TP08
HY-2D205-S25-SP04	20.5	46	120	25	64	32	0.32			
HY-2D210-S25-SP04	21.0	46	120	25	64	32	0.32			
HY-2D215-S25-SP04	21.5	47	121	25	65	32	0.32			
HY-2D220-S25-SP04	22.0	48	122	25	66	32	0.34			
HY-2D230-S25-SP04	23.0	51	125	25	69	32	0.35			
HY-2D240-S25-SP05	24.0	53	127	25	71	32	0.35	XONT 050305E SPET 050305E	SP030082	FT-TP09
HY-2D250-S25-SP05	25.0	56	130	25	74	32	0.37			
HY-2D260-S32-SP05	26.0	56	137	32	77	40	0.58			
HY-2D270-S32-SP05	27.0	59	139	32	79	40	0.60			
HY-2D280-S32-SP05	28.0	60	142	32	82	40	0.63			
HY-2D290-S32-SP05	29.0	62	144	32	84	40	0.65			
HY-2D300-S32-SP06	30.0	65	147	32	87	40	0.65	XONT 060406E SPET 060406E	SP035094	FT-TP10
HY-2D310-S40-SP06	31.0	66	160	40	90	48	1.02			
HY-2D320-S40-SP06	32.0	68	162	40	92	48	1.04			
HY-2D330-S40-SP06	33.0	70	165	40	95	48	1.07			
HY-2D340-S40-SP06	34.0	73	168	40	98	48	1.10			
HY-2D350-S40-SP06	35.0	76	171	40	101	48	1.14			

HY Series Drilling Holder

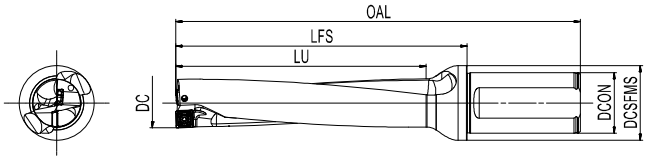
LU/DC=2



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-2D360-S40-SP07	36.0	77	174	40	104	48	1.16	XONT 070406E SPET 070406E	SP035094	FT-TP10
HY-2D370-S40-SP07	37.0	79	175	40	105	48	1.19			
HY-2D380-S40-SP07	38.0	80	178	40	108	48	1.24			
HY-2D390-S40-SP07	39.0	82	180	40	110	48	1.29			
HY-2D400-S40-SP07	40.0	85	183	40	113	48	1.32			
HY-2D410-S40-SP07	41.0	90	187	40	117	48	1.38			
HY-2D420-S40-SP07	42.0	91	189	40	119	48	1.42			
HY-2D430-S40-SP07	43.0	91	192	40	122	50	1.47			
HY-2D440-S40-SP08	44.0	93	194	40	124	63	1.65	XONT 080508E SPET 080508E	SP040110	FT-TP15
HY-2D450-S40-SP08	45.0	95	197	40	127	63	1.71			
HY-2D460-S40-SP08	46.0	98	200	40	130	63	1.75			
HY-2D470-S40-SP08	47.0	101	202	40	132	63	1.80			
HY-2D480-S40-SP08	48.0	104	205	40	135	63	1.86			
HY-2D490-S40-SP08	49.0	105	207	40	137	63	1.92			
HY-2D500-S40-SP08	50.0	105	174	40	104	63	1.99			
HY-2D510-S40-SP08	51.0	108	214	40	144	63	2.11			
HY-2D520-S40-SP08	52.0	110	216	40	146	63	2.17			
HY-2D530-S40-SP09	53.0	113	219	40	149	63	2.15	XONT 090608E SPET 090608E	SP040110	FT-TP15
HY-2D540-S40-SP09	54.0	114	221	40	151	63	2.22			
HY-2D550-S40-SP09	55.0	116	224	40	154	63	2.31			
HY-2D560-S40-SP09	56.0	118	227	40	157	63	2.40			
HY-2D570-S40-SP09	57.0	120	229	40	159	63	2.48			
HY-2D580-S40-SP09	58.0	122	232	40	162	63	2.57			
HY-2D590-S40-SP09	59.0	124	234	40	164	63	2.61			
HY-2D600-S40-SP09	60.0	126	237	40	167	63	2.77			
HY-2D610-S40-SP09	61.0	129	241	40	171	63	2.89			
HY-2D620-S40-SP09	62.0	131	243	40	173	63	2.95			
HY-2D630-S40-SP09	63.0	133	246	40	176	63	3.06			

HY Series Drilling Holder

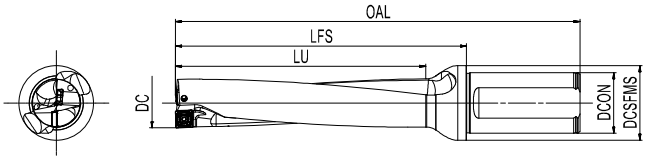
LU/DC=3



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-3D140-S20-SP02	14.0	44	108	20	58	25	0.16	XONT 020204E SPET 020204E	SP020045	FT-TP06
HY-3D145-S20-SP02	14.5	47	110	20	60	25	0.16			
HY-3D150-S20-SP02	15.0	49	112	20	62	25	0.17			
HY-3D155-S20-SP02	15.5	51	114	20	64	25	0.17			
HY-3D160-S20-SP02	16.0	51	116	20	66	25	0.18			
HY-3D165-S20-SP03	16.5	53	118	20	68	25	0.18	XONT 030305E SPET 030305E	SP022049	FT-TP07
HY-3D170-S25-SP03	17.0	54	119	25	69	32	0.29			
HY-3D175-S25-SP03	17.5	57	122	25	72	32	0.30			
HY-3D180-S25-SP03	18.0	57	123	25	73	32	0.31			
HY-3D185-S25-SP03	18.5	59	125	25	75	32	0.31			
HY-3D190-S25-SP03	19.0	60	132	25	76	32	0.32			
HY-3D193-S25-SP03	19.3	63	135	25	79	32	0.32			
HY-3D195-S25-SP03	19.5	63	135	25	79	32	0.32			
HY-3D200-S25-SP04	20.0	63	137	25	81	32	0.34	XONT 040305E SPET 040305E	SP025072	FT-TP08
HY-3D205-S25-SP04	20.5	64	138	25	82	32	0.34			
HY-3D210-S25-SP04	21.0	66	140	25	84	32	0.34			
HY-3D215-S25-SP04	21.5	68	142	25	86	32	0.35			
HY-3D220-S25-SP04	22.0	69	143	25	87	32	0.36			
HY-3D225-S25-SP04	22.5	72	146	25	90	32	0.37			
HY-3D230-S25-SP04	23.0	73	147	25	91	32	0.38			
HY-3D235-S25-SP04	23.5	75	149	25	93	32	0.39			

HY Series Drilling Holder

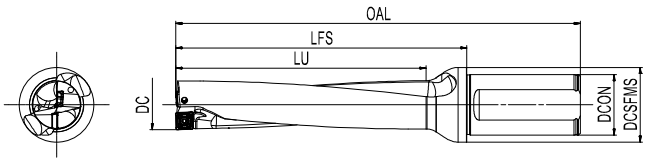
LU/DC=3



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-3D240-S25-SP05	24.0	77	151	25	95	32	0.39	XONT 050305E SPET 050305E	SP030082	FT-TP09
HY-3D245-S25-SP05	24.5	79	153	25	97	32	0.39			
HY-3D250-S25-SP05	25.0	81	155	25	99	32	0.41			
HY-3D253-S25-SP05	25.3	81	155	25	99	32	0.41			
HY-3D255-S25-SP05	25.5	81	156	25	100	32	0.42			
HY-3D260-S32-SP05	26.0	81	162	32	102	40	0.63			
HY-3D265-S32-SP05	26.5	83	164	32	104	40	0.64			
HY-3D270-S32-SP05	27.0	85	165	32	105	40	0.65			
HY-3D275-S32-SP05	27.5	88	168	32	108	40	0.67			
HY-3D280-S32-SP05	28.0	88	169	32	109	40	0.68			
HY-3D285-S32-SP05	28.5	88	171	32	111	40	0.69			
HY-3D290-S32-SP05	29.0	90	172	32	112	40	0.71			
HY-3D295-S32-SP05	29.5	93	175	32	115	40	0.72			
HY-3D300-S32-SP06	30.0	95	177	32	117	40	0.72	XONT 060406E SPET 060406E	SP035094	FT-TP10
HY-3D305-S32-SP06	30.5	96	178	32	118	40	0.72			
HY-3D310-S40-SP06	31.0	97	191	40	121	48	1.09			
HY-3D315-S40-SP06	31.5	98	192	40	122	48	1.1			
HY-3D320-S40-SP06	32.0	100	194	40	124	48	1.12			
HY-3D325-S40-SP06	32.5	102	196	40	126	48	1.14			
HY-3D330-S40-SP06	33.0	103	198	40	128	48	1.15			
HY-3D335-S40-SP06	33.5	105	200	40	130	48	1.17			
HY-3D340-S40-SP06	34.0	106	201	40	131	48	1.19			
HY-3D345-S40-SP06	34.5	109	204	40	134	48	1.22			
HY-3D350-S40-SP06	35.0	110	205	40	135	48	1.24			
HY-3D355-S40-SP06	35.5	112	207	40	137	48	1.26			

HY Series Drilling Holder

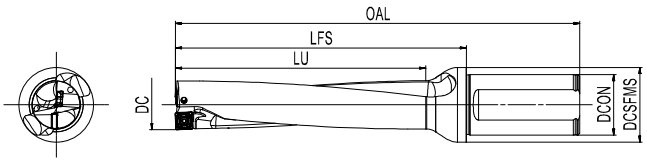
LU/DC=3



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-3D360-S40-SP07	36.0	112	209	40	139	48	1.28	XONT 070406E SPET 070406E	SP035094	FT-TP10
HY-3D370-S40-SP07	37.0	115	212	40	142	48	1.33			
HY-3D380-S40-SP07	38.0	118	216	40	146	48	1.39			
HY-3D383-S40-SP07	38.3	119	217	40	147	48	1.41			
HY-3D385-S40-SP07	38.5	119	217	40	147	48	1.42			
HY-3D390-S40-SP07	39.0	121	219	40	149	48	1.44			
HY-3D395-S40-SP07	39.5	123	221	40	151	48	1.44			
HY-3D400-S40-SP07	40.0	125	223	40	153	48	1.47			
HY-3D405-S40-SP07	40.5	127	223	40	153	48	1.57			
HY-3D410-S40-SP07	41.0	127	227	40	157	48	1.62			
HY-3D420-S40-SP07	42.0	130	230	40	160	48	1.68			
HY-3D430-S40-SP07	43.0	133	234	40	164	50	1.77			
HY-3D440-S40-SP08	44.0	136	237	40	167	50	1.81	XONT 080508E SPET 080508E	SP040110	FT-TP15
HY-3D450-S40-SP08	45.0	104	242	40	172	50	1.90			
HY-3D460-S40-SP08	46.0	144	246	40	176	50	1.98			
HY-3D470-S40-SP08	47.0	146	249	40	179	63	2.12			
HY-3D480-S40-SP08	48.0	149	253	40	183	63	2.30			
HY-3D490-S40-SP08	49.0	152	256	40	186	63	2.39			
HY-3D495-S40-SP08	49.5	153	258	40	188	63	2.31			
HY-3D500-S40-SP08	50.0	155	260	40	190	63	2.37			
HY-3D510-S40-SP08	51.0	158	264	40	194	63	2.58			
HY-3D520-S40-SP08	52.0	161	267	40	197	63	2.69			
HY-3D530-S40-SP09	53.0	164	271	40	201	63	2.71	XONT 090608E SPET 090608E	SP040110	FT-TP15
HY-3D540-S40-SP09	54.0	167	274	40	204	63	2.81			
HY-3D550-S40-SP09	55.0	171	279	40	209	63	2.94			
HY-3D560-S40-SP09	56.0	174	283	40	213	63	3.07			
HY-3D570-S40-SP09	57.0	177	286	40	216	63	3.19			
HY-3D580-S40-SP09	58.0	180	290	40	220	63	3.32			
HY-3D590-S40-SP09	59.0	183	293	40	223	63	3.41			
HY-3D600-S40-SP09	60.0	186	297	40	227	63	3.55			
HY-3D610-S40-SP09	61.0	190	302	40	232	63	3.71			
HY-3D620-S40-SP09	62.0	193	305	40	235	63	3.94			
HY-3D630-S40-SP09	63.0	196	309	40	239	63	4.10			

HY Series Drilling Holder

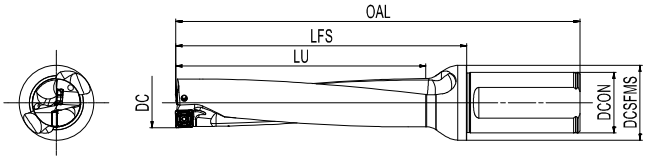
LU/DC=4



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-4D140-S20-SP02	14.0	59	122	20	72	25	0.17	XONT 020204E SPET 020204E	SP020045	FT-TP06
HY-4D145-S20-SP02	14.5	62	125	20	75	25	0.17			
HY-4D150-S20-SP02	15.0	64	127	20	77	25	0.17			
HY-4D155-S20-SP02	15.5	66	129	20	79	25	0.18			
HY-4D160-S20-SP02	16.0	67	132	20	82	25	0.19			
HY-4D165-S20-SP03	16.5	69	134	20	84	25	0.19	XONT 030305E SPET 030305E	SP022049	FT-TP07
HY-4D170-S25-SP03	17.0	71	142	25	86	32	0.30			
HY-4D175-S25-SP03	17.5	73	145	25	89	32	0.31			
HY-4D180-S25-SP03	18.0	75	147	25	91	32	0.32			
HY-4D185-S25-SP03	18.5	77	149	25	93	32	0.33			
HY-4D190-S25-SP03	19.0	79	151	25	95	32	0.34			
HY-4D193-S25-SP03	19.3	83	155	25	99	32	0.34			
HY-4D195-S25-SP03	19.5	83	155	25	99	32	0.34			
HY-4D200-S25-SP04	20.0	83	157	25	101	32	0.36	XONT 040305E SPET 040305E	SP025072	FT-TP08
HY-4D205-S25-SP04	20.5	86	160	25	104	32	0.37			
HY-4D210-S25-SP04	21.0	89	161	25	105	32	0.37			
HY-4D215-S25-SP04	21.5	89	163	25	107	32	0.38			
HY-4D220-S25-SP04	22.0	91	165	25	109	32	0.39			
HY-4D225-S25-SP04	22.5	93	168	25	112	32	0.40			
HY-4D230-S25-SP04	23.0	95	170	25	114	32	0.41			
HY-4D240-S25-SP05	24.0	101	175	25	119	32	0.42	XONT 050305E SPET 050305E	SP030082	FT-TP09
HY-4D245-S25-SP05	24.5	102	177	25	121	32	0.44			
HY-4D250-S25-SP05	25.0	107	180	25	124	32	0.45			
HY-4D253-S25-SP05	25.3	107	180	25	124	32	0.46			
HY-4D260-S32-SP05	26.0	107	188	32	128	40	0.68			
HY-4D265-S32-SP05	26.5	109	190	32	130	40	0.70			
HY-4D270-S32-SP05	27.0	112	192	32	132	40	0.71			
HY-4D280-S32-SP05	28.0	115	197	32	137	40	0.74			
HY-4D290-S32-SP05	29.0	120	201	32	141	40	0.78			
HY-4D295-S32-SP05	29.5	123	204	32	144	40	0.80			
HY-4D300-S32-SP06	30.0	125	207	32	147	40	0.80	XONT 060406E SPET 060406E	SP035094	FT-TP10
HY-4D310-S40-SP06	31.0	128	222	40	152	48	1.18			
HY-4D320-S40-SP06	32.0	131	226	40	156	48	1.21			
HY-4D330-S40-SP06	33.0	136	231	40	161	48	1.26			
HY-4D340-S40-SP06	34.0	140	235	40	165	48	1.31			
HY-4D350-S40-SP06	35.0	145	240	40	170	48	1.36			

HY Series Drilling Holder

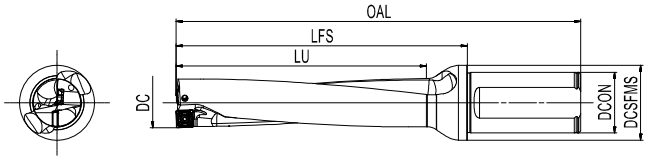
LU/DC=4



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-4D360-S40-SP07	36.0	148	245	40	175	48	1.43	XONT 070406E SPET 070406E	SP035094	FT-TP10
HY-4D370-S40-SP07	37.0	151	249	40	179	48	1.48			
HY-4D380-S40-SP07	38.0	157	254	40	184	48	1.54			
HY-4D390-S40-SP07	39.0	161	258	40	188	48	1.62			
HY-4D400-S40-SP07	40.0	167	263	40	193	48	1.77			
HY-4D410-S40-SP07	41.0	168	268	40	198	48	1.86			
HY-4D420-S50-SP07	42.0	172	282	50	202	63	2.64			
HY-4D430-S50-SP07	43.0	176	287	50	207	63	2.74			
HY-4D440-S50-SP08	44.0	180	291	50	211	63	2.83	XONT 080508E SPET 080508E	SP040110	FT-TP15
HY-4D450-S50-SP08	45.0	185	297	50	217	63	2.95			
HY-4D460-S50-SP08	46.0	188	302	50	222	63	3.05			
HY-4D470-S50-SP08	47.0	193	306	50	226	63	3.12			
HY-4D480-S50-SP08	48.0	197	311	50	231	63	3.25			
HY-4D490-S50-SP08	49.0	201	315	50	235	63	3.36			
HY-4D500-S50-SP08	50.0	204	320	50	240	63	3.51			
HY-4D505-S50-SP08	50.5	208	322	50	242	63	3.56			
HY-4D510-S50-SP08	51.0	209	325	50	245	63	3.61			
HY-4D520-S50-SP08	52.0	213	329	50	249	63	3.75			
HY-4D530-S50-SP09	53.0	218	333	50	253	63	3.83	XONT 090608E SPET 090608E	SP040110	FT-TP15
HY-4D540-S50-SP09	54.0	221	338	50	258	63	3.92			
HY-4D550-S50-SP09	55.0	226	343	50	263	63	4.12			
HY-4D560-S50-SP09	56.0	230	349	50	269	63	4.32			
HY-4D570-S50-SP09	57.0	234	353	50	273	63	4.45			
HY-4D580-S50-SP09	58.0	238	357	50	277	63	4.63			
HY-4D590-S50-SP09	59.0	242	362	50	282	63	4.92			
HY-4D600-S50-SP09	60.0	246	367	50	287	63	5.23			
HY-4D610-S50-SP09	61.0	250	372	50	292	63	5.55			
HY-4D620-S50-SP09	62.0	254	376	50	296	63	5.87			
HY-4D630-S50-SP09	63.0	258	381	50	301	63	6.18			

HY Series Drilling Holder

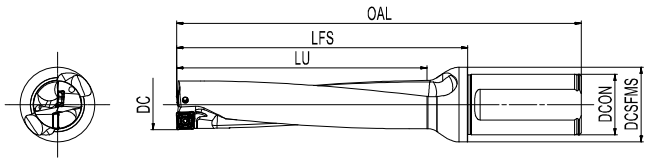
LU/DC=5



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-5D140-S20-SP02	14.0	73	136	20	86	25	0.18	XONT 020204E SPET 020204E	SP020045	FT-TP06
HY-5D145-S20-SP02	14.5	76	139	20	89	25	0.18			
HY-5D150-S20-SP02	15.0	79	142	20	92	25	0.18			
HY-5D155-S20-SP02	15.5	82	145	20	95	25	0.19			
HY-5D160-S20-SP02	16.0	83	148	20	98	25	0.20			
HY-5D165-S20-SP03	16.5	86	151	20	101	25	0.20	XONT 030305E SPET 030305E	SP022049	FT-TP07
HY-5D170-S25-SP03	17.0	88	159	25	103	32	0.31			
HY-5D175-S25-SP03	17.5	91	163	25	107	32	0.33			
HY-5D180-S25-SP03	18.0	93	165	25	109	32	0.33			
HY-5D185-S25-SP03	18.5	96	168	25	112	32	0.34			
HY-5D190-S25-SP03	19.0	98	170	25	114	32	0.35			
HY-5D193-S25-SP03	19.3	102	174	25	118	32	0.36			
HY-5D195-S25-SP03	19.5	102	174	25	118	32	0.36			
HY-5D200-S25-SP04	20.0	103	177	25	121	32	0.38	XONT 040305E SPET 040305E	SP025072	FT-TP08
HY-5D205-S25-SP04	20.5	105	179	25	123	32	0.39			
HY-5D210-S25-SP04	21.0	108	182	25	126	32	0.40			
HY-5D215-S25-SP04	21.5	111	184	25	128	32	0.41			
HY-5D220-S25-SP04	22.0	113	187	25	131	32	0.42			
HY-5D230-S25-SP04	23.0	119	194	25	138	32	0.45			
HY-5D240-S25-SP05	24.0	125	199	25	143	32	0.47	XONT 050305E SPET 050305E	SP030082	FT-TP09
HY-5D250-S25-SP05	25.0	132	205	25	149	32	0.50			
HY-5D253-S25-SP05	25.3	132	205	25	149	32	0.50			
HY-5D260-S32-SP05	26.0	133	214	32	154	40	0.73			
HY-5D265-S32-SP05	26.5	136	216	32	156	40	0.75			
HY-5D270-S32-SP05	27.0	139	219	32	159	40	0.77			
HY-5D280-S32-SP05	28.0	143	225	32	165	40	0.81			
HY-5D290-S32-SP05	29.0	149	231	32	171	40	0.85			

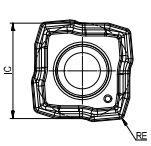
HY Series Drilling Holder

LU/DC=5



Product code	Dimension (mm)						Weight (kg)	Insert	Insert Screw	Wrench
	DC	LU	OAL	DCON	LFS	DCSFMS				
HY-5D300-S32-SP06	30.0	155	237	32	177	40	0.88	XONT 060406E SPET 060406E	SP035094	FT-TP10
HY-5D310-S40-SP06	31.0	159	253	40	183	48	1.26			
HY-5D320-S40-SP06	32.0	164	258	40	188	48	1.31			
HY-5D330-S40-SP06	33.0	169	264	40	194	48	1.36			
HY-5D340-S40-SP06	34.0	175	270	40	200	48	1.42			
HY-5D350-S40-SP06	35.0	181	276	40	206	48	1.49			
HY-5D360-S40-SP07	36.0	186	282	40	212	48	1.57	XONT 070406E SPET 070406E	SP035094	FT-TP10
HY-5D370-S40-SP07	37.0	189	286	40	216	48	1.64			
HY-5D380-S40-SP07	38.0	195	292	40	222	48	1.72			
HY-5D390-S40-SP07	39.0	201	298	40	228	48	1.79			
HY-5D400-S40-SP07	40.0	208	304	40	234	48	1.84			
HY-5D410-S40-SP07	41.0	215	310	40	240	48	2.11			
HY-5D420-S50-SP07	42.0	219	325	50	245	63	2.85			
HY-5D430-S50-SP07	43.0	223	331	50	251	63	2.96			
HY-5D440-S50-SP08	44.0	226	335	50	255	63	3.15	XONT 080508E SPET 080508E	SP040110	FT-TP15
HY-5D450-S50-SP08	45.0	230	342	50	262	63	3.28			
HY-5D460-S50-SP08	46.0	234	348	50	268	63	3.41			
HY-5D470-S50-SP08	47.0	240	353	50	273	63	3.52			
HY-5D480-S50-SP08	48.0	245	359	50	279	63	3.67			
HY-5D490-S50-SP08	49.0	250	364	50	284	63	3.82			
HY-5D500-S50-SP08	50.0	254	370	50	290	63	3.99			
HY-5D510-S50-SP08	51.0	259	376	50	296	63	4.13			
HY-5D520-S50-SP08	52.0	265	381	50	301	63	4.30			

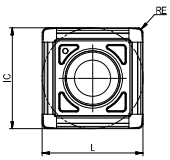
XONT---Central inserts



Center insert	Product code	Machining conditions: Dimension (mm) IC	S	RE	D1	● Good Conditions ◐ General Conditions ✱ Bad Conditions ● P AP301U	● M AP273U	● K AP301U
 DM general geometry	**XONT 020204E-DM**	4.9	2.4	0.4	2.2	●		●
	XONT 030305E-DM	5.7	2.6	0.5	2.5	●		●
	XONT 030305E-DL	5.7	2.6	0.5	2.5		●	
	XONT 040305E-DM	6.8	2.8	0.5	2.8	●		●
	XONT 040305E-DL	6.8	2.8	0.5	2.8		●	
	XONT 050305E-DM	8.4	3.0	0.5	3.2	●		●
	XONT 050305E-DL	8.4	3.0	0.5	3.2		●	
 DL sharp geometry	**XONT 060406E-DM**	10.2	3.5	0.6	4.0	●		●
	XONT 060406E-DL	10.2	3.5	0.6	4.0		●	
	XONT 070406E-DM	12.35	4.0	0.6	4.0	●		●
	XONT 070406E-DL	12.35	4.0	0.6	4.0		●	
	XONT 080508E-DM	14.9	4.5	0.8	4.7	●		●
	XONT 080508E-DL	14.9	4.5	0.8	4.7		●	
	XONT 090608E-DM	17.9	5.5	0.8	4.75	●		●
	XONT 090608E-DL	17.9	5.5	0.8	4.75			

● : Standard stock ○ : Made-to-Order

SPET--- Peripheral inserts



Peripheral Inserts	Product code	Machining conditions: Dimension (mm) IC	S	RE	D1	● Good Conditions ◐ General Conditions ✱ Bad Conditions ● ◐ P AP273U	● ◐ P AC371P	● M AP371M	● K AC271P	● S AP471S
 DM general geometry	**SPET 020204E-DM**	5.1	2.4	0.4	2.2	●				
	SPET 020205E-DL	5.1	2.4	0.5	2.2	●		●		○
	SPET 030305E-DM	6.0	2.6	0.5	2.5	●	●		●	
	SPET 030306E-DL	6.0	2.6	0.6	2.5		●	●		○
	SPET 040305E-DM	7.4	2.8	0.5	2.8	●	●		●	
	SPET 040307E-DL	7.4	2.8	0.7	2.8		●	●		○
	SPET 050305E-DM	8.9	3.0	0.5	3.2	●	●		●	
	SPET 050308E-DL	8.9	3.0	0.8	3.2		●	●		○
 DL sharp geometry	**SPET 060406E-DM**	10.65	3.5	0.6	4.2	●	●		●	
	SPET 060408E-DL	10.65	3.5	0.8	4.2		●	●		○
	SPET 070406E-DM	12.65	4.0	0.6	4.0	●	●		●	
	SPET 070410E-DL	12.65	4.0	1.0	4.0					
	SPET 080508E-DM	15.45	4.5	0.8	4.7	●	●		●	
	SPET 080510E-DL	15.45	4.5	1.0	4.7					
	SPET 090608E-DM	18.6	5.5	0.8	4.75	●			●	
	SPET 090610E-DL	18.6	5.5	1.0	4.75					

● : Standard stock ○ : Made-to-Order

Cutting Data Recommendation for HY series

ISO	Material classification			Brinell hardness (HB)	Tensile strength (N/mm²)	Recommendation for HY series								
						AP273U			AC371P			AP371M		
						Vc (m/min)			Vc (m/min)			Vc (m/min)		
						●			●			●		
P	Non-alloyed steel	C ≤ 0.25%	Annealed	125	428	200	150	130	240	180	160	-	-	-
		0.25 < C ≤ 0.55%	Annealed	190	639	190	150	120	200	160	120	-	-	-
		0.25 < C ≤ 0.55%	Heat-treated	210	708	180	140	100	190	150	120	-	-	-
		C > 0.55%	Annealed	190	639	180	140	100	190	150	120	-	-	-
		C > 0.55%	Heat-treated	300	1013	150	110	75	160	120	90	-	-	-
		Free cutting steel (short chip)	Annealed	220	745	180	140	100	190	150	120	-	-	-
	Low-alloyed steel	Annealed		175	591	160	130	100	180	140	100	-	-	-
		Heat-treated		300	1013	150	110	75	160	120	90	-	-	-
		Heat-treated		380	1282	-	-	-	-	-	-	-	-	-
		Heat-treated		430	1477	-	-	-	-	-	-	-	-	-
	High-alloyed steel and highalloyed tool steel	Annealed		200	675	180	140	100	190	150	120	-	-	-
		Hardened and tempered		300	1013	150	110	75	160	120	90	-	-	-
		Hardened and tempered		400	1361	-	-	-	-	-	-	-	-	-
	Stainless steel	Ferritic/Martensite, Annealed		200	675	180	140	100	190	150	120	-	-	-
		Martensite,Heat-treated		330	1114	-	-	-	-	-	-	-	-	-
M	Stainless steel	Austenitic, hardened		200	675	150	120	90	-	-	-	140	120	90
		Austenitic,precipitation hardened stainless steel (PH stainless steel)		300	1013	130	100	80	-	-	-	130	100	80
		Austenitic, ferritic,duplex		230	778	130	100	80	-	-	-	130	100	80
K	Malleable cast iron	Ferritic		200	400	150	120	85	200	150	110	-	-	-
		Pearlitic		260	700	110	90	65	150	120	80	-	-	-
	Grey cast iron	Low tensile strength		180	200	200	150	130	240	180	160	-	-	-
		High tensile strength/Austenitic		245	350	150	110	75	160	120	90	-	-	-
	Nodular cast iron	Ferritic		155	400	140	110	80	180	140	100	-	-	-
		Pearlitic		265	700	130	100	70	160	120	90	-	-	-
	GGV(CGI)			230	400	-	-	-	130	100	70	-	-	-
N	Wrought aluminium alloys	non-aging		30	-	-	-	-	-	-	-	-	-	-
		aged		100	340	-	-	-	-	-	-	-	-	-
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260	-	-	-	-	-	-	-	-	-
		≤ 12% Si, aged		90	310	-	-	-	-	-	-	-	-	-
		> 12% Si, non-aging		130	450	-	-	-	-	-	-	-	-	-
	Magnesium alloy			70	250	-	-	-	-	-	-	-	-	-
	Copper and copper alloy (bronze/brass)	Non-alloyed steel, electrolytic copper		100	340	-	-	-	-	-	-	-	-	-
		Brass, bronze, red brass		90	310	-	-	-	-	-	-	-	-	-
		Cu alloy, short chip		110	380	-	-	-	-	-	-	-	-	-
		High tensile, Ampco alloy		300	1010	-	-	-	-	-	-	-	-	-
S	Heat-resistant alloy	Fe-based	Annealed	200	680	-	-	-	-	-	-	90	60	40
			Aged	280	940	-	-	-	-	-	-	70	50	30
		Ni or Co based	Annealed	250	840	-	-	-	-	-	-	70	50	30
			Aged	350	1180	-	-	-	-	-	-	50	40	30
			Cast	320	1080	-	-	-	-	-	-	50	40	30
	Titanium alloys	Pure Titanium		200	680	-	-	-	-	-	-	120	90	60
		α and β alloy, aged		375	1260	-	-	-	-	-	-	90	70	50
		β alloy		410	1400	-	-	-	-	-	-	-	-	-
	Tungsten alloy			300	1010	-	-	-	-	-	-	-	-	-
	Molybdenum alloy			300	1010	-	-	-	-	-	-	-	-	-
H	Hardened steel	Hardened and tempered		50HRC		-	-	-	-	-	-	-	-	-
		Hardened and tempered		55HRC		-	-	-	-	-	-	-	-	-
		Hardened and tempered		60HRC		-	-	-	-	-	-	-	-	-
	Chilled cast iron	Hardened and tempered		55HRC		-	-	-	-	-	-	-	-	-

*This table shows the general cutting conditions, and the actual selection should be adjusted according to factors such as equipment rigidity, drilling depth, workpiece clamping and cooling pressure.

f (mm/rev)															
⌀14mm-16mm		⌀16.5mm-19.5mm		⌀20mm-23.5mm		⌀24mm-29.5mm		⌀30mm-35mm		⌀36mm-43mm		⌀44mm-52mm		⌀53mm-63mm	
XONT 02/SPET 02		XONT 03/SPET 03		XONT 04/SPET 04		XONT 05/SPET 05		XONT 06/SPET 06		XONT 07/SPET 07		XONT 08/SPET 08		XONT 09/SPET 09	
-DM	-DL	-DM	-DL	-DM	-DL	-DM	-DL	-DM	-DL	-DM	-DL	-DM	-DL	-DM	-DL
0.04-0.06	0.04-0.08	0.04-0.06	0.04-0.09	0.04-0.10	0.04-0.12	0.04-0.10	0.04-0.12	0.06-0.12	0.06-0.14	0.06-0.12	0.06-0.14	0.08-0.12	0.08-0.14	0.08-0.12	0.08-0.14
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.06	0.04-0.06	0.06-0.09	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.13	0.10-0.16	0.08-0.16	0.10-0.16	0.08-0.16
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.06	0.04-0.06	0.06-0.09	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.13	0.10-0.16	0.08-0.16	0.10-0.16	0.08-0.16
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
0.04-0.06	0.04-0.06	0.06-0.09	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.13	0.10-0.16	0.08-0.16	0.10-0.16	0.08-0.16
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.04-0.08	0.04-0.08	0.06-0.11	0.06-0.11	0.06-0.14	0.06-0.14	0.08-0.14	0.08-0.14	0.08-0.20	0.08-0.20	0.08-0.20	0.08-0.20	0.10-0.20	0.10-0.20	0.10-0.20	0.10-0.20
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.04-0.06	0.04-0.06	0.04-0.06	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.06-0.14	0.06-0.12	0.06-0.14	0.06-0.12	0.08-0.14	0.08-0.12	0.08-0.14	0.08-0.12
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.06-0.12	0.06-0.10	0.08-0.12	0.08-0.10	0.10-0.16	0.10-0.12	0.10-0.16	0.10-0.12	0.10-0.20	0.10-0.15	0.10-0.20	0.10-0.15	0.12-0.20	0.12-0.15	0.12-0.20	0.12-0.15
0.06-0.10	0.06-0.08	0.06-0.10	0.06-0.08	0.08-0.14	0.08-0.10	0.08-0.14	0.08-0.10	0.08-0.18	0.08-0.12	0.08-0.18	0.08-0.12	0.10-0.08	0.10-0.12	0.10-0.08	0.10-0.12
0.06-0.12	0.06-0.10	0.08-0.12	0.08-0.10	0.10-0.16	0.10-0.12	0.10-0.16	0.10-0.12	0.10-0.20	0.10-0.15	0.10-0.20	0.10-0.15	0.12-0.20	0.12-0.15	0.12-0.20	0.12-0.15
0.06-0.10	-	0.06-0.10	-	0.08-0.14	-	0.08-0.14	-	0.08-0.18	-	0.08-0.18	-	0.10-0.08	-	0.10-0.08	-
0.06-0.12	0.06-0.10	0.08-0.12	0.08-0.10	0.10-0.16	0.10-0.12	0.10-0.16	0.10-0.12	0.10-0.20	0.10-0.15	0.10-0.20	0.10-0.15	0.12-0.20	0.12-0.15	0.12-0.20	0.12-0.15
0.06-0.10	0.06-0.08	0.06-0.10	0.06-0.08	0.08-0.14	0.08-0.10	0.08-0.14	0.08-0.10	0.08-0.18	0.08-0.12	0.08-0.18	0.08-0.12	0.10-0.18	0.10-0.12	0.10-0.18	0.10-0.12
0.06-0.10	-	0.06-0.10	-	0.08-0.14	-	0.08-0.14	-	0.08-0.18	-	0.08-0.18	-	0.10-0.08	-	0.10-0.08	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.04-0.06	0.04-0.06	0.04-0.06	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.06-0.14	0.06-0.12	0.06-0.14	0.06-0.12	0.08-0.14	0.08-0.12	0.08-0.14	0.08-0.12
0.04-0.06	0.04-0.06	0.04-0.06	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.06-0.14	0.06-0.12	0.06-0.14	0.06-0.12	0.08-0.14	0.08-0.12	0.08-0.14	0.08-0.12
0.04-0.06	0.04-0.08	0.06-0.08	0.04-0.09	0.04-0.10	0.04-0.12	0.06-0.10	0.06-0.12	0.08-0.13	0.08-0.16	0.08-0.13	0.08-0.16	0.08-0.16	0.10-0.16	0.08-0.16	0.10-0.16
0.04-0.06	0.04-0.06	0.04-0.06	0.06-0.08	0.06-0.11	0.06-0.08	0.08-0.11	0.06-0.08	0.06-0.14	0.06-0.12	0.06-0.14	0.06-0.12	0.08-0.14	0.08-0.12	0.08-0.14	0.08-0.12
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Ejector Drilling Product Introduction

Achteck has general-purpose deep-hole drilling inserts, which offer high productivity for many industries: energy, engineering machinery, injection molding, aircraft, shipbuilding, military, etc. It can achieve good hole straightness in deep hole drilling and good surface finish. Existing geometries and grades cover steel, stainless steel and heat resistant alloy drilling.

Product application and features

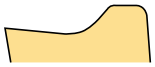
- The inserts can be mounted on the deep-hole drilling head.
- AP301U(N) is the first choice for drilling steel and stainless steel
- All geometries offer good chip-breaking result
- Increased efficiency due to high feed rate
- Reduces the cost per hole

Grade	Coating	Workpiece material					
		P	M	K	N	S	H
AP301U(N)	PVD	●	●			○	

● Marked: 1st Choice ○ Marked: Supplemental application

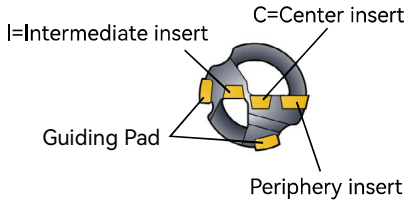
ISO P: (P15-P35) General-purpose PVD coating with excellent wear-resistance and toughness.
ISO M: (M15-M35) General-purpose grade for ISO-M applications, PVD coating with excellent toughness and resistance to built-up edges.

Geometry Types and Features

Geometry	Edge shape	Application
DH		• For general purpose. • Suitable for high cutting speed and feed. • Good chip control in most of materials.
DL		• Suitable for long chip materials (such as low carbon alloyed steel and duplex stainless steel). • Obtain a reliable production process in drilling materials where chip jamming can be a problem.
LH		• With open geometry; • Suitable for high cutting speed and feed.

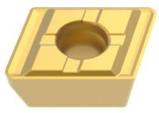
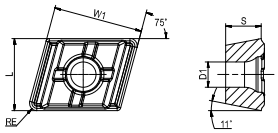
Ejector Drill Matching Table

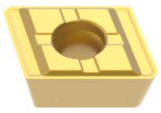
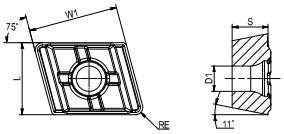
Hole diameter range 26-65mm

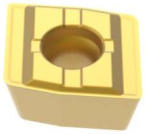
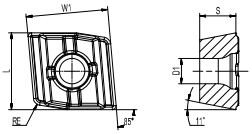


Hole diameter range (mm)	Center insert	Hole diameter range (mm)	Intermediate insert	Hole diameter range (mm)	Peripheral insert	Hole diameter range (mm)	Guiding pad
26.00-28.70	EPMT 050308C	26.00-31.00	EPMT 050308I	26.00-31.00	APHT 060308P	26.00-31.00	GPAD-06A
28.71-33.99	EPMT 06T308C	31.01-34.99	EPMT 06T308I	31.01-38.99	APHT 08T308P	31.01-39.60	GPAD-07A
34.00-43.00	EPMT 08T308C	35.00-54.99	EPMT 08T308I	39.00-49.99	APHT 09T308P	39.61-47.00	GPAD-08A
43.01-47.00	EPMT 10T308C	55.00-65.00	EPMT 12T308I	50.00-65.00	APHT 11T308P	47.01-54.99	GPAD-10A
47.01-49.99	EPMT 12T308C	-	-	-	-	55.00-65.00	GPAD-12A
50.00-57.99	EPMT 10T308C	-	-	-	-	-	-
58.00-65.00	EPMT 12T308C	-	-	-	-	-	-

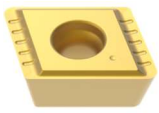
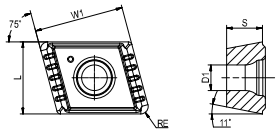
Ejector Drilling Insert
DH geometry

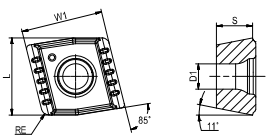
Center Insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**EPMT 050308C-DH AP301U(N)**	5.56	8	3.18	0.8	2.5
		EPMT 06T308C-DH AP301U(N)	6.35	9.87	3.97	0.8	2.8
		EPMT 08T308C-DH AP301U(N)	7.94	9.87	3.97	0.8	2.8
		EPMT 10T308C-DH AP301U(N)	9.53	9.87	3.97	0.8	2.8
		EPMT 12T308C-DH AP301U(N)	12.7	9.87	3.97	0.8	2.8

Intermediate insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**EPMT 050308I-DH AP301U(N)**	5.56	8	3.18	0.8	2.5
		EPMT 06T308I-DH AP301U(N)	6.35	9.87	3.97	0.8	2.8
		EPMT 08T308I-DH AP301U(N)	7.94	9.87	3.97	0.8	2.8
		EPMT 12T308I-DH AP301U(N)	12.7	9.87	3.97	0.8	2.8

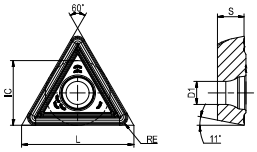
Periphery Insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**APHT 060308P-DH AP301U(N)**	6.5	8	3.18	0.8	2.5
		APHT 08T308P-DH AP301U(N)	8.5	9	3.97	0.8	2.8
		APHT 09T308P-DH AP301U(N)	9.66	9	3.97	0.8	2.8
		APHT 11T308P-DH AP301U(N)	12.75	9	3.97	0.8	2.8

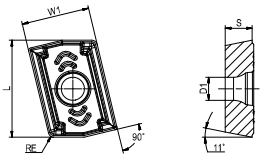
Ejector Drilling Insert
DL geometry

Intermediate Insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**EPMT 050308I-DL AP301U(N)**	5.56	8	3.18	0.8	2.5
		EPMT 06T308I-DL AP301U(N)	6.35	9.87	3.97	0.8	2.8
		EPMT 08T308I-DL AP301U(N)	7.94	9.87	3.97	0.8	2.8
		EPMT 12T308I-DL AP301U(N)	12.7	9.87	3.97	0.8	2.8

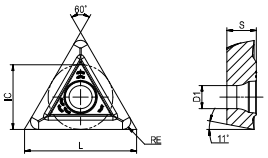
Periphery Insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**APHT 060308P-DL AP301U(N)**	6.5	8	3.18	0.8	2.5
		APHT 08T308P-DL AP301U(N)	8.5	9	3.97	0.8	2.8
		APHT 09T308P-DL AP301U(N)	9.66	9	3.97	0.8	2.8
		APHT 11T308P-DL AP301U(N)	12.75	9	3.97	0.8	2.8

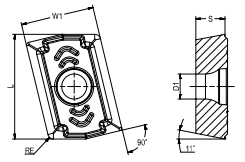
Ejector Drilling Insert
DH geometry

Center/Intermediate insert		Product code	Dimensions (mm)				
			L	IC	S	RE	D1
		**TPMT 16T312R-DH AP301U(N)**	16.5	9.53	3.97	1.2	3.4
		TPMT 220612R-DH AP301U(N)	22	12.7	6.35	1.2	4.4

Periphery insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**APMT 13T308-DH AP301U(N)**	14.6	10	3.97	0.8	3.4
		APMT 180608-DH AP301U(N)	20.6	11.5	6.35	0.8	4.4

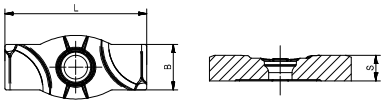
Ejector Drilling Insert
LH geometry

Center/Intermediate insert		Product code	Dimensions (mm)				
			L	IC	S	RE	D1
		**TPMT 16T312R-LH AP301U(N)**	16.5	9.525	3.97	1.2	3.4
		TPMT 220612R-LH AP301U(N)	22	12.7	6.35	1.2	4.4

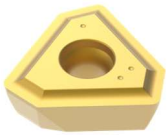
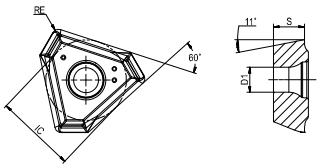
Periphery insert		Product code	Dimensions (mm)				
			L	W1	S	RE	D1
		**APMT 13T308-LH AP301U(N)**	14.6	10	3.97	0.8	3.4
		APMT 180608-LH AP301U(N)	20.6	11.5	6.35	0.8	4.4

Ejector Drilling Insert

Guiding pad

Guiding pad		Product code	Dimensions (mm)			
			B	L	S	R
		**GPAD-06A AC301K**	6.00	18.00	3.00	12.50
		GPAD-07A AC301K	6.90	20.00	3.50	13.40
		GPAD-08A AC301K	8.00	25.00	4.50	17.00
		GPAD-10A AC301K	10.00	30.00	4.50	20.30
		GPAD-12A AC301K	12.00	35.00	5.50	24.50

TPMX Series

Sharp		Product code	Dimensions (mm)			
			S	IC	RE	D1
		**TPMX 1403R-DH AP301U(N)**	3.50	8.45	0.80	2.87
		TPMX 1704R-DH AP301U(N)	4.00	10.30	0.80	3.90
		TPMX 2405R-DH AP301U(N)	5.50	14.20	1.20	4.40
		TPMX 2405L-DH AP301U(N)	5.50	14.20	1.20	4.40
		TPMX 2807R-DH AP301U(N)	7.50	17.00	1.60	5.50

Cutting Data Recommendation for BTA Ejector Drill (Dia 25.00-65.00mm)

Workpiece material			Brinell hardness (HB)	Grade			Cutting speed Vc m/min	Feed fn mm/r	
				Insert				Drilling dia mm	
				P	I	C		25.00-43.00	43.01-65.00
P	Unalloyed steel	C=0.05-0.10%	125	AP301U(N)			70-130	0.11-0.41	0.14-0.45
		C=0.10-0.25%	125				70-130	0.11-0.41	0.14-0.45
		C=0.25-0.55%	150				70-130	0.11-0.41	0.14-0.45
		C=0.55-0.80%	170				70-130	0.11-0.41	0.14-0.45
	High carbon steel	Carbon tool steel	210	AP301U(N)			70-120	0.11-0.41	0.20-0.45
	Low-alloyed steel	Non-Hardened	180	AP301U(N)			55-110	0.11-0.41	0.20-0.45
		Tempered	275				70-120	0.11-0.41	0.20-0.45
		Tempered	350				70-120	0.11-0.41	0.20-0.45
	High-alloyed steel	Annealed	200	AP301U(N)			55-110	0.11-0.38	0.20-0.40
		Hardened tool steel	325				55-110	0.20-0.38	0.20-0.40
	Cast steel	Non-alloyed steel	180	AP301U(N)			55-110	0.11-0.41	0.20-0.45
		Low-alloy (alloy<5%)	200				55-110	0.11-0.41	0.20-0.45
M	Stainless steel	Non-Hardened/Ferritic/martensitic	200	AP301U(N)			40-110	0.11-0.41	0.20-0.45
		Austenitic	200				40-110	0.11-0.41	0.20-0.45
		Austenitic, precipitation hardened (PH)	300				40-110	0.11-0.33	0.20-0.35
		Austenitic/ferritic, duplex	230				40-80	0.11-0.33	0.20-0.35
K	Malleable cast iron	Ferritic	200	AP301U(N)			80-120	0.11-0.38	0.24-0.41
		Pearlitic	260				80-120	0.11-0.38	0.24-0.41
	Grey cast iron	Low tensile strength	180	AP301U(N)			60-110	0.11-0.38	0.24-0.41
		High tensile strength	245				60-110	0.11-0.38	0.24-0.41
	Nodular cast iron	Ferritic	160	AP301U(N)			50-110	0.11-0.38	0.24-0.41
		Pearlitic	250				50-110	0.11-0.38	0.24-0.41
	GGV (CGI)		230						
N	Wrought aluminium alloys	non-aging	30	AP301U(N)			65-150	0.09-0.33	0.20-0.33
		aged	100				65-150	0.09-0.33	0.20-0.33
	Cast aluminium alloys	≤ 12% Si, non-aging	75	AP301U(N)			65-150	0.09-0.33	0.20-0.33
		≤ 12% Si, aged	90				65-150	0.09-0.33	0.20-0.33
		12% Si, non-aging	130				65-150	0.09-0.33	0.20-0.33
	Magnesium alloy		70						
	Copper and copper alloys	Unalloyed, electrolytic copper	100	AP301U(N)			65-150	0.09-0.33	0.20-0.33
	(bronze/brass)	Brass, bronze, red brass	90	AP301U(N)			65-150	0.09-0.33	0.20-0.33
		Cu alloys, short-chip	110				65-150	0.09-0.33	0.20-0.33
		High tensile, Ampco alloy	300				65-150	0.09-0.33	0.20-0.33
S	Heat-resistant alloys	Fe-based annealed	200	AP301U(N)			10-55	0.09-0.30	0.20-0.33
		Fe-based hardened	280				10-55	0.09-0.30	0.20-0.33
		Ni or Co-based annealed	250				10-55	0.09-0.30	0.20-0.33
		Ni or Co-based hardened	350				10-55	0.09-0.30	0.20-0.33
		Ni or Co-based cast	320				10-55	0.09-0.30	0.20-0.33
	Titanium alloys	Pure titanium	200	AP301U(N)			30-60	0.09-0.30	0.20-0.33
		α alloys	375				30-60	0.09-0.30	0.20-0.33
		α and β alloys	375				30-60	0.09-0.30	0.20-0.33
		β alloys	410				30-60	0.09-0.30	0.20-0.33
H	Hardened steel	Hardened and tempered	43-47 HRC						
	Chilled cast iron		47-60 HRC						

*) Insert position-P , I , C
P=peripheral insert , I=intermediate insert, C=center insert