

**MagicDrill DRA**

Excellent hole accuracy with a low cutting force design

- Optimal web thickness reduces deflection
- Fine chip breaking and smooth deep hole cutting
- Easy insert replacement

**NEW** For high precision steel machining  
**HQP**



**NEW** Lineup expansion  
**Ø26~Ø33** (3D, 5D, 8D, SF type)  
and applicable insert types (GM)



New DRA insert

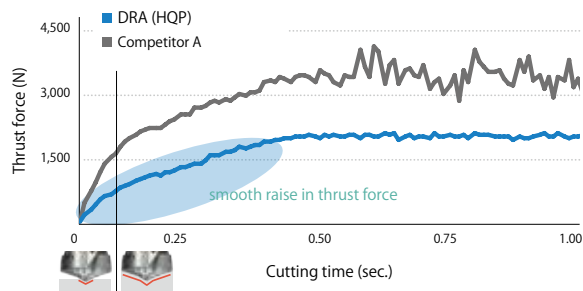
# HQP

For high precision steel machining

High precision hole making either in machining centers or even in lathes thanks to the centering function.

Special two step tip angle, large rake angle and double margin can suppress centrifugal whirling and leads high precision process.

Comparison of cutting resistance when entering workpiece  
(Internal evaluation)



Cutting conditions: Vc = 100 m/min, f = 0.25 mm/rev, H = 30 mm, Wet, Workpiece: C50, ø16 (3D)

Special 2-step tip angle



Large rake angle



Double margin



## DRA insert (HQP - For high precision steel machining) Drilling diameter ø7.94 ~ ø19.90



k8 tolerance	
DC	k8(mm)
7.94 ± 10.00	+0.022 0
10.10 ± 18.00	+0.027 0
18.10 ± 19.90	+0.033 0

k8 is the dimension tolerance of the insert. It is not the tolerance of the cutting diameter.

### Insert

Description	Dimensions (mm)		Grade	Applicable toolholder	
	DC	PL			
DA 0794M-HQP	7.94	1.90	●	SS10-DRA080M-○ SF12-DRA080M-○	
0800M-HQP	8.00	1.91	●		
0810M-HQP	8.10	1.93	●		
0820M-HQP	8.20	1.94	●		
0830M-HQP	8.30	1.96	●		
0840M-HQP	8.40	1.98	●		
DA 0850M-HQP	8.50	1.99	●	SS10-DRA085M-○ SF12-DRA085M-○	
0860M-HQP	8.60	2.01	●		
0870M-HQP	8.70	2.03	●		
0880M-HQP	8.80	2.05	●		
0890M-HQP	8.90	2.06	●		
0900M-HQP	9.00	2.19	●		
DA 0910M-HQP	9.10	2.21	●	SS10-DRA090M-○ SF12-DRA090M-○	
0920M-HQP	9.20	2.22	●		
0930M-HQP	9.30	2.24	●		
0940M-HQP	9.40	2.26	●		
DA 0950M-HQP	9.50	2.27	●		SS10-DRA095M-○ SF12-DRA095M-○
0960M-HQP	9.60	2.29	●		
0970M-HQP	9.70	2.31	●		
0980M-HQP	9.80	2.32	●		
0990M-HQP	9.90	2.34	●		
DA 1000M-HQP	10.00	2.35	●	SS12-DRA100M-○ SF16-DRA100M-○	
1010M-HQP	10.10	2.36	●		
1020M-HQP	10.20	2.38	●		
1030M-HQP	10.30	2.40	●		
1040M-HQP	10.40	2.41	●		

Description	Dimensions (mm)		Grade	Applicable toolholder
	DC	PL		
DA 1450M-HQP	14.50	3.19	●	SS16-DRA145M-○ SF16-DRA145M-○
1460M-HQP	14.60	3.21	●	
1470M-HQP	14.70	3.22	●	
1480M-HQP	14.80	3.24	●	
1490M-HQP	14.90	3.25	●	
DA 1500M-HQP	15.00	3.33	●	
1510M-HQP	15.10	3.35	●	
1520M-HQP	15.20	3.36	●	
1530M-HQP	15.30	3.38	●	
1540M-HQP	15.40	3.39	●	
1550M-HQP	15.50	3.41	●	
1560M-HQP	15.60	3.42	●	
1570M-HQP	15.70	3.44	●	
1580M-HQP	15.80	3.46	●	
1590M-HQP	15.90	3.47	●	
DA 1600M-HQP	16.00	3.55	●	SS18-DRA160M-○ SF20-DRA160M-○
1610M-HQP	16.10	3.57	●	
1620M-HQP	16.20	3.58	●	
1630M-HQP	16.30	3.60	●	
1640M-HQP	16.40	3.62	●	
1650M-HQP	16.50	3.63	●	
1660M-HQP	16.60	3.65	●	
1670M-HQP	16.70	3.66	●	
1680M-HQP	16.80	3.68	●	
1690M-HQP	16.90	3.69	●	



## DRA insert (HQP - For high precision steel machining) Drilling diameter $\varnothing 7.94 \sim \varnothing 19.90$


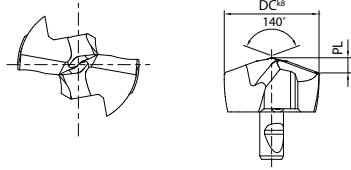
Description	Dimensions (mm)		Grade		Applicable toolholder
	DC	PL	PR1525		
DA 1050M-HQP	10.50	2.43	●		SS12-DRA105M-○ SF16-DRA105M-○
1060M-HQP	10.60	2.44	●		
1070M-HQP	10.70	2.46	●		
1080M-HQP	10.80	2.47	●		
1090M-HQP	10.90	2.49	●		
DA 1100M-HQP	11.00	2.65	●		SS12-DRA110M-○ SF16-DRA110M-○
1110M-HQP	11.10	2.67	●		
1120M-HQP	11.20	2.68	●		
1130M-HQP	11.30	2.70	●		
1140M-HQP	11.40	2.72	●		
DA 1150M-HQP	11.50	2.73	●		SS12-DRA115M-○ SF16-DRA115M-○
1160M-HQP	11.60	2.75	●		
1170M-HQP	11.70	2.76	●		
1180M-HQP	11.80	2.78	●		
1190M-HQP	11.90	2.80	●		
DA 1200M-HQP	12.00	2.79	●		SS14-DRA120M-○ SF16-DRA120M-○
1210M-HQP	12.10	2.81	●		
1220M-HQP	12.20	2.82	●		
1230M-HQP	12.30	2.84	●		
1240M-HQP	12.40	2.86	●		
DA 1250M-HQP	12.50	2.87	●		SS14-DRA125M-○ SF16-DRA125M-○
1260M-HQP	12.60	2.89	●		
1270M-HQP	12.70	2.91	●		
1280M-HQP	12.80	2.92	●		
1290M-HQP	12.90	2.94	●		
DA 1300M-HQP	13.00	2.98	●		SS14-DRA130M-○ SF16-DRA130M-○
1310M-HQP	13.10	2.99	●		
1320M-HQP	13.20	3.01	●		
1330M-HQP	13.30	3.02	●		
1340M-HQP	13.40	3.04	●		
DA 1350M-HQP	13.50	3.06	●		SS14-DRA135M-○ SF16-DRA135M-○
1360M-HQP	13.60	3.07	●		
1370M-HQP	13.70	3.09	●		
1380M-HQP	13.80	3.10	●		
1390M-HQP	13.90	3.12	●		
DA 1400M-HQP	14.00	3.11	●		SS16-DRA140M-○ SF16-DRA140M-○
1410M-HQP	14.10	3.12	●		
1420M-HQP	14.20	3.14	●		
1430M-HQP	14.30	3.16	●		
1440M-HQP	14.40	3.17	●		

Description	Dimensions (mm)		Grade		Applicable toolholder
	DC	PL	PR1525		
DA 1700M-HQP	17.00	3.73	●		SS18-DRA170M-○ SF20-DRA170M-○
1710M-HQP	17.10	3.75	●		
1720M-HQP	17.20	3.77	●		
1730M-HQP	17.30	3.78	●		
1740M-HQP	17.40	3.80	●		
1750M-HQP	17.50	3.81	●		
1760M-HQP	17.60	3.83	●		
1770M-HQP	17.70	3.84	●		
1780M-HQP	17.80	3.86	●		
1790M-HQP	17.90	3.88	●		
DA 1800M-HQP	18.00	3.97	●		SS20-DRA180M-○ SF25-DRA180M-○
1810M-HQP	18.10	3.98	●		
1820M-HQP	18.20	4.00	●		
1830M-HQP	18.30	4.02	●		
1840M-HQP	18.40	4.03	●		
1850M-HQP	18.50	4.05	●		
1860M-HQP	18.60	4.06	●		
1870M-HQP	18.70	4.08	●		
1880M-HQP	18.80	4.09	●		
1890M-HQP	18.90	4.11	●		
DA 1900M-HQP	19.00	4.20	●		SS20-DRA190M-○ SF25-DRA190M-○
1910M-HQP	19.10	4.22	●		
1920M-HQP	19.20	4.23	●		
1930M-HQP	19.30	4.25	●		
1940M-HQP	19.40	4.26	●		
1950M-HQP	19.50	4.28	●		
1960M-HQP	19.60	4.29	●		
1970M-HQP	19.70	4.31	●		
1980M-HQP	19.80	4.33	●		
1990M-HQP	19.90	4.34	●		

Inserts sold in 1 piece boxes  
● : Available



## DRA insert (GM - General purpose) Drilling diameter $\varnothing 7.94 \sim \varnothing 33.00$

DC	k8(mm)
7.94 ± 10.00	+0.022 0
10.10 ± 18.00	+0.027 0
18.10 ± 30.00	+0.033 0
30.10 ± 33.00	+0.039 0

k8 is the dimension tolerance of the insert.  
It is not the tolerance of the cutting diameter.

### First recommended grade

Steel/Stainless steel PR1535    Cast Iron PR1525

### Insert

Description	Dimensions (mm)		Grade		Applicable toolholder
	DC	PL	PR1535	PR1525	
DA 2600M-GM	26.00	4.80	●	●	SF32-DRA260M-○
2650M-GM	26.50	4.90	●	●	
DA 2700M-GM	27.00	4.99	●	●	SF32-DRA270M-○
2750M-GM	27.50	5.09	●	●	
DA 2800M-GM	28.00	4.73	●	●	SF32-DRA280M-○
2850M-GM	28.50	4.83	●	●	
DA 2900M-GM	29.00	4.90	●	●	SF32-DRA290M-○
2950M-GM	29.50	5.01	●	●	
DA 3000M-GM	30.00	5.07	●	●	SF32-DRA300M-○
3050M-GM	30.50	5.17	●	●	
DA 3100M-GM	31.00	5.26	●	●	SF32-DRA310M-○
3150M-GM	31.50	5.37	●	●	

Description	Dimensions (mm)		Grade		Applicable toolholder
	DC	PL	PR1535	PR1525	
DA 3200M-GM	32.00	5.41	●	●	SF32-DRA320M-○
3250M-GM	32.50	5.51	●	●	
3300M-GM	33.00	5.62	●	●	

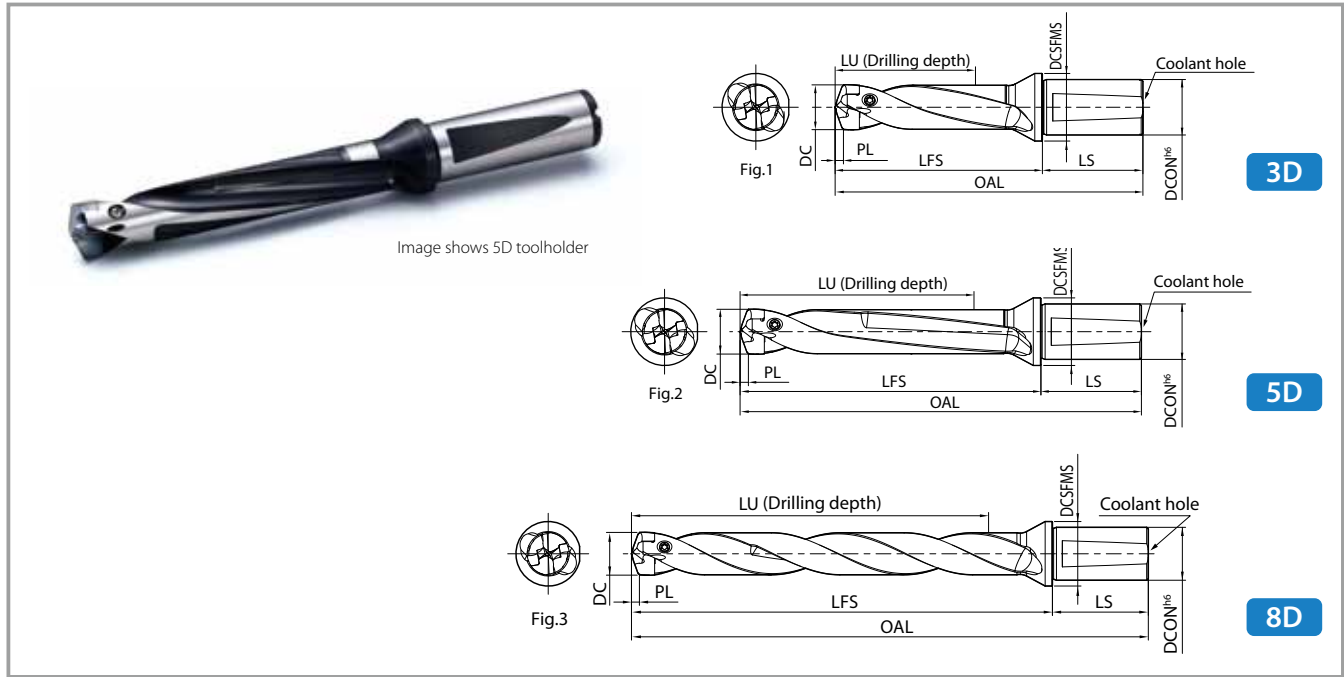
Insert table shows only new items.

For DA0794M-GM – DA2500M-GM see brochure:



Inserts sold in 1 piece boxes  
● : Available

# DRA toolholder (Lineup expansion)



## Toolholder dimensions

Drilling depth	Description	Availability	Dimensions (mm)							Image	Applicable insert	Spare parts		
			ø Dc		DCON (h6)	OAL	LFS	LU	LS			DCSFMS	Clamp screw	Wrench
			min.	max.										
3D	SF32-DRA260M-3	●	26.00	26.99	32	178	120	81.0	58	39	Fig.1	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
	SF32-DRA270M-3	●	27.00	27.99		181	123	84.0						
	SF32-DRA280M-3	●	28.00	28.99		185	127	87.0						
	SF32-DRA290M-3	●	29.00	29.99		189	131	90.0						
	SF32-DRA300M-3	●	30.00	30.99		193	135	93.0						
	SF32-DRA310M-3	●	31.00	31.99		196	138	96.0						
	SF32-DRA320M-3	●	32.00	33.00		200	142	99.0						
5D	SF32-DRA260M-5	●	26.00	26.99	32	232	174	135.0	58	39	Fig.2	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
	SF32-DRA270M-5	●	27.00	27.99		237	179	140.0						
	SF32-DRA280M-5	●	28.00	28.99		243	185	145.0						
	SF32-DRA290M-5	●	29.00	29.99		249	191	150.0						
	SF32-DRA300M-5	●	30.00	30.99		255	197	155.0						
	SF32-DRA310M-5	●	31.00	31.99		260	202	160.0						
	SF32-DRA320M-5	●	32.00	33.00		266	208	165.0						
8D	SF32-DRA260M-8	●	26.00	26.99	32	313	255	216.0	58	39	Fig.3	DA2600M-...~DA2650M-...	HS-50100TRP	DTPM-15
	SF32-DRA270M-8	●	27.00	27.99		321	263	224.0						
	SF32-DRA280M-8	●	28.00	28.99		330	272	232.0						
	SF32-DRA290M-8	●	29.00	29.99		339	281	240.0						
	SF32-DRA300M-8	●	30.00	30.99		348	290	248.0						
	SF32-DRA310M-8	●	31.00	31.99		356	298	256.0						
	SF32-DRA320M-8	●	32.00	33.00		365	307	264.0						

●: Available