

No Deburring! Reducing deburring work enables cost reduction and high-efficiency production. Repolishing! Cost efficient because it can be repolished. (Repolishing is done by our company) Patent and designs Expand into overseas markets(EU/USA/China) "ZERO BURR" Trademark registered.

The superior characteristics of ZEROBURR X (The results of drilling test)

OIL hole
Prevent welding damage due to heat.

XZX thinning

New development. Composite R shape that enables to bite smoothly and precise positioning with composite R.

Fine Curve Flute

Achieved excellent cutting and chip discharging with large waveform R shape.

Sub Fine Curve Flute

S=1280 F=52 V=24 f=0.04i

Complemented the fine curve flute in the main blade Reducing and dispersing the load increased its cutting speed. Achieves excellent cutting and chip discharge without clogging.

Power Wave Drill

Dispersed cutting resistance to less than 1/4. 3D waveform composite R shape with power wave that cuts well but does not chip, achieves no burr.

Sub Power Wave Drill

Removes burrs while increasing cutting speed. 3D waveform composite R shape

Power Spiral Reamer

Strong twist reamer shape for beautifully finished inner wall of hole.

- * Please use for wet drilling.
- * Be sure to fix the work material firmly, and use the drill to completely pass through the penetration depth.
- * If the deflection is large when the drill is mounted, welding or the hole diameter may become large, or a spiral flaw may remain on a drilling surface of the work material.

 $F = f \times S$



- Cutting speed -

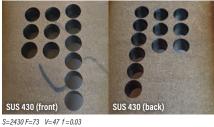
H7 plus tolerance

 $S = 10000 \times V \div 3.14 \div D$ $V = S \div (1000 \div 3.14 \div D)$

S = Revolution(rpm)V = Cutting speed(m/min) F = Feed speed(mm/min) $f = Feed \ rate(mm/rev)$

 $f = F \div S(3blade \times 1.5, 4blade \times 2)$ *Recommended cutting conditions may vary depending on the cutting environment such as the type of work materials and thickness.







ΦD T 0 I Φd





S=1280 F=25 V=24 f=0.02

ZEROBURR X LINEUP (for Stainless steel / Titanium / Heat resistant alloy / Cross hole)

GQT coating

	φD	Т	Q	L	φd
Model number	Diameter	Penetration Depth	Groove Length	Overall Length	Shank
GK-HSTZX-OH 0300GQT	3.0	1.8	21	62	3.0
GK-HSTZX-OH 0310GQT	3.1	2.1	28	75	4.0
GK-HSTZX-OH 0320GQT	3.2				
GK-HSTZX-OH 0330GQT	3.3				
GK-HSTZX-OH 0340GQT	3.4				
GK-HSTZX-OH 0350GQT	3.5				
GK-HSTZX-OH 0360GQT	3.6				
GK-HSTZX-OH 0370GQT	3.7	2.4			
GK-HSTZX-OH 0380GQT	3.8				
GK-HSTZX-OH 0390GQT	3.9				
GK-HSTZX-OH 0400GQT	4.0				
GK-HSTZX-OH 0410GQT	4.1			90	6.0
GK-HSTZX-OH 0420GQT	4.2]			
GK-HSTZX-OH 0430GQT	4.3	2.7			
GK-HSTZX-OH 0440GQT	4.4				
GK-HSTZX-OH 0450GQT	4.5		35		
GK-HSTZX-OH 0460GQT	4.6		35		
GK-HSTZX-OH 0470GQT	4.7				
GK-HSTZX-OH 4800GQT	4.8	3			
GK-HSTZX-OH 0490GQT	4.9				
GK-HSTZX-OH 0500GQT	5.0				
GK-HSTZX-OH 0510GQT	5.1		42		
GK-HSTZX-OH 0520GQT	5.2				
GK-HSTZX-OH 0530GQT	5.3				
GK-HSTZX-OH 0540GQT	5.4				
GK-HSTZX-OH 0550GQT	5.5	3.6			
GK-HSTZX-OH 0560GQT	5.6				
GK-HSTZX-OH 0570GQT	5.7				
GK-HSTZX-OH 0580GQT	5.8				
GK-HSTZX-OH 0590GQT	5.9				
GK-HSTZX-OH 0600GQT	6.0				
GK-HSTZX-OH 0610GQT	6.1		49	100	8.0
GK-HSTZX-OH 0620GQT	6.2	3.9			
GK-HSTZX-OH 0630GQT	6.4				
GK-HSTZX-OH 0640GQT GK-HSTZX-OH 0650GQT	6.5				
GK-HSTZX-OH 0650GQT	6.6				
GK-HSTZX-OH 0660GQT	6.7				
GK-HSTZX-OH 0670GQT	6.8	4.2			
GK-HSTZX-OH 0690GQT	6.9	4.2			
GK-HSTZX-OH 0700GQT	7.0				
GK-HSTZX-OH 0710GQT	7.1				
GK-HSTZX-OH 0720GQT	7.2	4.5	56		
		4.5	90		

	φD	T	Q	L	φd
Model number	Diameter	Penetration Depth	Groove Length	Overall Length	Shank
GK-HSTZX-OH 0740GQT	7.4	4.5			
GK-HSTZX-OH 0750GQT	7.5	4.5	56	100	8.0
GK-HSTZX-OH 0760GQT	7.6				
GK-HSTZX-OH 0770GQT	7.7				
GK-HSTZX-OH 0780GQT	7.8	4.8			
GK-HSTZX-OH 0790GQT	7.9				
GK-HSTZX-OH 0800GQT	8.0				
GK-HSTZX-OH 0810GQT	8.1				10.0
GK-HSTZX-OH 0820GQT	8.2				
GK-HSTZX-OH 0830GQT	8.3	5.1			
GK-HSTZX-OH 0840GQT	8.4				
GK-HSTZX-OH 0850GQT	8.5		62		
GK-HSTZX-OH 0860GQT	8.6		63		
GK-HSTZX-OH 0870GQT	8.7				
GK-HSTZX-OH 0880GQT	8.8	5.4		120	
GK-HSTZX-OH 0890GQT	8.9				
GK-HSTZX-OH 0900GQT	9.0				
GK-HSTZX-OH 0910GQT	9.1				
GK-HSTZX-OH 0920GQT	9.2		70		
GK-HSTZX-OH 0930GQT	9.3	5.7			
GK-HSTZX-OH 0940GQT	9.4				
GK-HSTZX-OH 0950GQT	9.5				
GK-HSTZX-OH 0960GQT	9.6				
GK-HSTZX-OH 0970GQT	9.7				
GK-HSTZX-OH 0980GQT	9.8	6			
GK-HSTZX-OH 0990GQT	9.9				
GK-HSTZX-OH 1000GQT	10.0				
GK-HSTZX-OH 1010GQT	10.1		77	130	12.0
GK-HSTZX-OH 1020GQT	10.2				
GK-HSTZX-OH 1030GQT	10.3	6.3			
GK-HSTZX-OH 1040GQT	10.4				
GK-HSTZX-OH 1050GQT	10.5				
GK-HSTZX-OH 1060GQT	10.6				
GK-HSTZX-OH 1070GQT	10.7				
GK-HSTZX-OH 1080GQT	10.8	6.6			
GK-HSTZX-OH 1090GQT	10.9				
GK-HSTZX-OH 1100GQT	11.0				
GK-HSTZX-OH 1110GQT	11.1		84		
GK-HSTZX-OH 1120GQT	11.2	7.2			
GK-HSTZX-OH 1130GQT	11.3				
GK-HSTZX-OH 1140GQT	11.4				
GK-HSTZX-OH 1150GQT	11.5				
GK-HSTZX-OH 1160GQT	11.6				
GK-HSTZX-OH 1170GQT	11.7				

	φD	T	Q	L	φd
Model number	Diameter	Penetration Depth	Groove Length	Overall Length	Shank
GK-HSTZX-OH 1180GQT	11.8	7.2		130	12.0
GK-HSTZX-OH 1190GQT	11.9		84		
GK-HSTZX-OH 1200GQT	12.0				
GK-HSTZX-OH 1210GQT	12.1		91	- 150	
GK-HSTZX-OH 1220GQT	12.2				
GK-HSTZX-OH 1230GQT	12.3	7.5			
GK-HSTZX-OH 1240GQT	12.4				
GK-HSTZX-OH 1250GQT	12.5				
GK-HSTZX-OH 1260GQT	12.6	7.8			
GK-HSTZX-OH 1270GQT	12.7				
GK-HSTZX-OH 1280GQT	12.8				14.0
GK-HSTZX-OH 1290GQT	12.9				
GK-HSTZX-OH 1300GQT	13				14.0
GK-HSTZX-OH 1310GQT	13.1				
GK-HSTZX-OH 1320GQT	13.2				
GK-HSTZX-OH 1330GQT	13.3	8.1			
GK-HSTZX-OH 1340GQT	13.4				
GK-HSTZX-OH 1350GQT	13.5		98		
GK-HSTZX-OH 1360GQT	13.6		98		
GK-HSTZX-OH 1370GQT	13.7				
GK-HSTZX-OH 1380GQT	13.8	8.4			
GK-HSTZX-OH 1390GQT	13.9				
GK-HSTZX-OH 1400GQT	14.0				
GK-HSTZX-OH 1410GQT	14.1		105	- 160	
GK-HSTZX-OH 1420GQT	14.2				
GK-HSTZX-OH 1430GQT	14.3	8.7			
GK-HSTZX-OH 1440GQT	14.4				
GK-HSTZX-OH 1450GQT	14.5				
GK-HSTZX-OH 1460GQT	14.6				
GK-HSTZX-OH 1470GQT	14.7				
GK-HSTZX-OH 1480GQT	14.8	9			
GK-HSTZX-OH 1490GQT	14.9				16.0
GK-HSTZX-OH 1500GQT	15.0				10.0
GK-HSTZX-OH 1510GQT	15.1	9.3	112		
GK-HSTZX-OH 1520GQT	15.2				
GK-HSTZX-OH 1530GQT	15.3				
GK-HSTZX-OH 1540GQT	15.4				
GK-HSTZX-OH 1550GQT	15.5				
GK-HSTZX-OH 1560GQT	15.6	9.6			
GK-HSTZX-OH 1570GQT	15.7				
GK-HSTZX-OH 1580GQT	15.8				
GK-HSTZX-OH 1590GQT	15.9				
GK-HSTZX-OH 1600GQT	16.0				

The Japanese products