NPA

NEW

Member IMC Group Ingersoll Cutting Tools

New Product Announcement

MILLING - CHIPSURFER

Tip Style
Engraving & Fine engraving tips

Available Adaptions
Chip Surfer T05

Included Angle Options
45°, 60° & 90°

Tip Radius Options
Sharp, 0.007" & 0.010"

Materials
- Steel
- Stainless Steel
- Cast Iron
- Non-Ferrous
- High-Temp Alloys
- Hardened Steel

CHIPSURFER™

CHIP SURFER ENGRAVING TIPS

Even More Versatility for the Diverse & Expansive Chip Surfer Line!

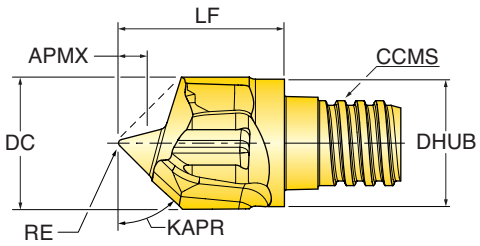
ChipSurfer is a modular tip and shank system that resembles solid carbide but is designed to better ensure process quality, minimize set-up time and enhance productivity. The same shank can accommodate a diverse range of 90°, ball nose, chamfer, corner round, hi-feed, backdraft, circle segment, threading, plunging, dovetail and slotter milling tip styles; not to mention drill, spot, countersink and counterbore tips! That said, Ingersoll is pleased to feature a lineup of engraving tips.

Features & Benefits:

» Tips repeat within +/-.001" and index on the machine in seconds; ideal for high production environments
» Designed for fine engraving in small font sizes; better than a ballnose!
» Various point radii, included angle and neck clearance options
» Feature variations can be quoted
» Utmost productivity and tool life when coupled to Typhoon spindle speeder

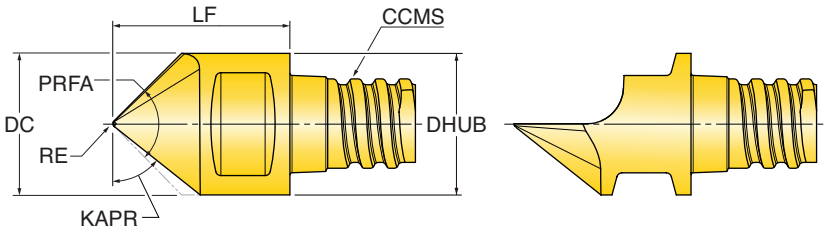
See the full line »

Series 45Q - Engraving Tip



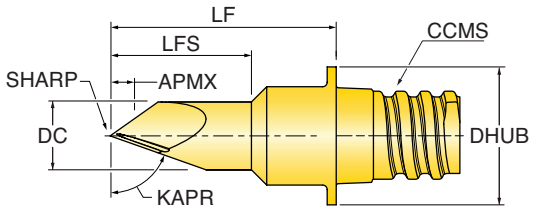
Part Number	DC Cutting Dia.	PRFA Profile Angle	KAPR Cutting Edge Angle	RE Radius	APMX Depth of Cut Max.	LF Functional Length	ZEFF Eff. Teeth	CCMS Connection Code Machine Side	DHUB Hub Diameter
INCH									
45Q-3139TQRA45	0.312	90.0	45.0	0.010	0.010	0.390	1	Chip Surfer T05	0.300

Series 45Q_RA - Engraving Tip



Part Number	DC Cutting Dia.	PRFA Profile Angle	KAPR Cutting Edge Angle	RE Radius	LF Functional Length	ZEFF Eff. Teeth	CCMS Connection Code Machine Side	DHUB Hub Diameter
METRIC								
45Q00810TQRA22	8.00 mm	45.0	67.5	0.20 mm	10.00 mm	1	Chip Surfer T05	8.00 mm
45Q00810TQRA30	8.00 mm	60.0	60.0	0.20 mm	10.00 mm	1	Chip Surfer T05	8.00 mm
45Q00810TQRA45	8.00 mm	90.0	45.0	0.20 mm	10.00 mm	1	Chip Surfer T05	8.00 mm

Series 46Q - Fine Engraving Tip



Part Number	DC Cutting Dia.	PRFA Profile Angle	KAPR Cutting Edge Angle	APMX Depth of Cut Max.	LF Functional Length	LFS Functional Length Secondary	ZEFF Eff. Teeth	CCMS Connection Code Machine Side	DHUB Hub Diameter
INCH									
46Q-1550TQRA60	0.150	60.0	60.0	0.005	0.5	0.31	3	Chip Surfer T05	0.300

Hardware

Part Number Series	CCMS Connection Code	Optional		
		 Wrench	 Torque Wrench	Tightening Torque (in.lbs.)
45Q	T05	WS-0043	DT-60-06	60
45Q_RA	T05	WS-0043	DT-60-06	60
46Q	T05	WS-0043	DT-60-06	60

Operating Guidelines

ISO	Matl. Group No.	Material	Examples	fz Feed/Tooth (inch)	Vx Cutting Speed (SFM)	Coolant
P	1-5	Non-alloy steel	1018, A36, 1045, A572, 1070	.001 - .002	400 - 600	No
	6-9	Low alloy steel	4140, 4340, P20, 8620, 300M			
	10-11	High alloy steel	H13, A2, D2, M2, T1	.001 - .002	300 - 500	
M	12-13	Stainless Steel (ferritic & martensitic)	410, 416, 440	.001 - .002	250 - 400	Yes
	14	Stainless Steel (austenitic)	303, 304, 316, 15-5, 17-4			May not be required at high speeds
K	15-16	Grey cast iron	CLS, 20, 30, 45	.001 - .002	400 - 700	No
	17-18	Nodular cast iron	60-40-18, 100-70-03			
N	21-30	Aluminum	7075, 6061	.001 - .002	1000 - 2500	Yes
		Copper		.001 - .002	250 - 450	No

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases.

INDEXING CHIPSURFER TIPS

Step 1: Screw tip into shank until finger tight (Figure 1a). Note a .010" gap (Figure 1b).
Step 2: Use wrench to torque approximately 1/4 turn, creating a simultaneous fit (Figure 2).
Step 3: Use .001" shim stock to check the simultaneous fit at the intersection of the tip and the shank.
The shim should not be able to enter the intersection (Figure 3a).
If it does, tighten further with the wrench until there is no gap (Figure 3b).

Note: Pre-set torque wrenches (series DT-. . .) can be purchased.

Figure 1a. Finger tight

Figure 1b. .010" gap

Figure 2. 1/4 turn

Figure 3a. Shim should NOT enter intersection

Figure 3b. Proper fit

Series DT-. . . Optional Torque Wrench

BOOST ENGRAVING PRODUCTIVITY BY COUPLING WITH A TYPHOON SPINDLE!

TYPHOON™
COOLANT DRIVEN HIGH-SPEED SPINDLES

FEATURES

The revolutionary modular high-speed Typhoon Spindle, meticulously designed, engineered, manufactured and assembled with ultra precision industry collets and nuts, offers maximum flexibility for a wide range of small tool applications.

BENEFITS

- √ Quick and easy installation
- √ Free energy source
- √ Fast & efficient chip evacuation
- √ Coolant at the cutting edge
- √ ATC and turret compatable
- √ Compact design

GJET

The GJET Typhoon spindle is more compact than the HPC model and is ideal for customers looking for maximum spindle speed from 290psi. The GJET Typhoon spindle focuses on providing accuracy and speed for high-speed machining using micro-diameter cutting tools or small diameter cutting tools in engraving applications.

GJET Typhoon spindles come fully integrated in a variety of spindle adaptions, including: ER32 Modular, HSKA40, HSKA63, BT30, BT40, SK30, SK40, C5, C6, CAT40, and 20 mm Straight Shank.