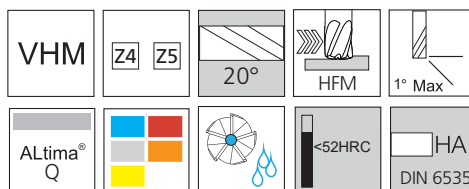


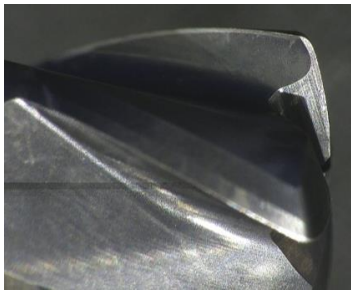
SPECIAL OFFER KITS



TuffCut® HF Series FHFP N3 & N5



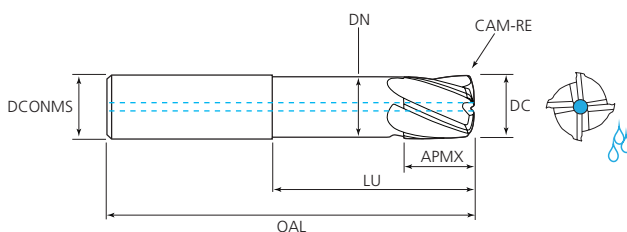
Application	Deep, narrow or difficult to access pockets & slots, roughing 3D surfaces
Materials	Steels, Stainless Steels, High Temp Alloys
Common Method	Drills & long reach endmills, shallow cuts, slow feed rates
Optimised Method	M.A. Ford High Feed Positive
Diameters	6mm – 12mm
Reach	3xd & 5xd
Flutes	4 & 5 Depending on diameter

Example: Inconel 625			
Parameters		Pocket Dimensions: 42mm x 11.5mm x 28mm deep	
Tool Number:	FHFP 08N5-CCAQ		
Tool Data:	Ø 8mm x N5 - Z4		
Application	2D pocket		
Vc:	35 m/min		
N:	1112 RPM		
Fz:	0.2 mm		
Vf:	1112 mm		
Ap:	0.2 mm		
Ae:	8 & 3.5 mm		
Ramp	1.5° @ 50% feed	Last pocket surface finish	Tool after 56 minutes
Coolant:	Emulsion (thru-tool)		
Cycle time:	9 min 24 sec		

FHFP N3 - Kit Price £240

FHFP N5 - Kit Price £285

Each kit contains 1 of each 6,8,10 and 12mm FHFP tool of the relevant neck length



Tool No.	DC	DCONMS	DN	OAL	APMX	LU	NOF	CAM-RE
FHFP 06N3-CCAQ	6.0	6.0	5.8	57.0	6.0	20.0	4	0.6
FHFP 08N3-CCAQ	8.0	8.0	7.8	63.0	8.0	26.0	4	0.8
FHFP 10N3-CCAQ	10.0	10.0	9.8	72.0	10.0	32.0	4	1.0
FHFP 12N3-CCAQ	12.0	12.0	11.8	83.0	12.0	38.0	5	1.2

FHFP 06N5-CCAQ	6.0	6.0	5.8	75.0	6.0	32.0	4	0.6
FHFP 08N5-CCAQ	8.0	8.0	7.8	83.0	8.0	42.0	4	0.8
FHFP 10N5-CCAQ	10.0	10.0	9.8	100.0	10.0	52.0	4	1.0
FHFP 12N5-CCAQ	12.0	12.0	11.8	110.0	12.0	62.0	5	1.2

Series FHFP - 3xD																	
Workpiece Material Group	ISO	Coolant			Vc- m/min	End Mill Diameter and CAM-R											
		Max	Air	MQL		6mm x R0.6			8mm x R0.8			10mm x R1.0			12mm x R1.2		
						Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz
Low Carbon Steels	P	●	●	●	300	0.30	4.5	0.39	0.40	6.0	0.52	0.50	7.5	0.65	0.60	9.0	0.78
Medium Carbon Steels		●	●	●	250	0.30	4.5	0.36	0.40	6.0	0.48	0.50	7.5	0.6	0.60	9.0	0.72
Alloy Steels		●	●	●	200	0.30	4.5	0.33	0.40	6.0	0.44	0.50	7.5	0.55	0.60	9.0	0.66
Die/Tool Steels		●	●	●	150	0.30	4.5	0.3	0.40	6.0	0.4	0.50	7.5	0.5	0.60	9.0	0.6
Austenitic Stainless Steels	M	●	X	○	120	0.24	3.6	0.24	0.32	4.8	0.32	0.40	6.0	0.4	0.48	7.2	0.48
Duplex (22%)		●	X	○	90	0.21	3.6	0.24	0.28	4.8	0.32	0.35	6.0	0.4	0.42	7.2	0.48
Super Duplex (25%)		●	X	○	75	0.18	2.4	0.24	0.24	3.2	0.32	0.30	4.0	0.4	0.36	4.8	0.48
Titanium Alloys	S	●	X	X	100	0.18	2.4	0.24	0.24	3.2	0.32	0.30	4.0	0.4	0.36	4.8	0.48
High Temp Alloys		●	X	X	30	0.15	1.8	0.16	0.20	2.4	0.22	0.25	3.0	0.27	0.30	3.6	0.32
Hardened Steels 45 - 50HRC	H	○	●	○	90	0.27	4.5	0.27	0.36	6.0	0.36	0.45	7.5	0.45	0.54	9.0	0.54
Hardened Steels 50 - 55HRC		X	●	○	80	0.24	3.6	0.21	0.32	4.8	0.28	0.40	6.0	0.35	0.48	7.2	0.42

Series FHFP - 5xD																	
Workpiece Material Group	ISO	Coolant			Vc- m/min	End Mill Diameter and CAM-R											
		Max	Air	MQL		6mm x R0.6			8mm x R0.8			10mm x R1.0			12mm x R1.2		
						Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz	Ap	Ae	Fz
Low Carbon Steels	P	●	●	●	270	0.24	4.5	0.39	0.32	6.0	0.52	0.4	7.5	0.65	0.48	9.0	0.78
Medium Carbon Steels		●	●	●	225	0.24	4.5	0.36	0.32	6.0	0.48	0.4	7.5	0.6	0.48	9.0	0.72
Alloy Steels		●	●	●	180	0.24	4.5	0.33	0.32	6.0	0.44	0.4	7.5	0.55	0.48	9.0	0.66
Die/Tool Steels		●	●	●	135	0.24	4.5	0.3	0.32	6.0	0.4	0.4	7.5	0.5	0.48	9.0	0.6
Austenitic Stainless Steels	M	●	X	○	110	0.19	3.6	0.24	0.26	4.8	0.32	0.32	6.0	0.4	0.38	7.2	0.48
Duplex (22%)		●	X	○	80	0.17	3.6	0.24	0.22	4.8	0.32	0.28	6.0	0.4	0.34	7.2	0.48
Super Duplex (25%)		●	X	○	70	0.14	2.4	0.24	0.19	3.2	0.32	0.24	4.0	0.4	0.29	4.8	0.48
Titanium Alloys	S	●	X	X	90	0.14	2.4	0.24	0.19	3.2	0.32	0.24	4.0	0.4	0.29	4.8	0.48
High Temp Alloys		●	X	X	30	0.12	1.8	0.16	0.16	2.4	0.22	0.2	3.0	0.27	0.24	3.6	0.32
Hardened Steels 45 - 50HRC	H	○	●	○	80	0.22	4.5	0.27	0.29	6.0	0.36	0.36	7.5	0.45	0.43	9.0	0.54
Hardened Steels 50 - 55HRC		X	●	○	70	0.19	3.6	0.21	0.26	4.8	0.28	0.32	6.0	0.35	0.38	7.2	0.42

● Preferred ○ Possible X Not Possible

Note: If the calculated feed cannot be achieved due to limitations such as machine capability or component size, adjust the cutting speed (RPM) to achieve the required feed per tooth (fz). For full slotting a reduction in Ap may be required to maintain an effective cutting strategy.