

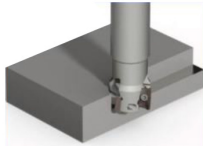
XOGU11

HFL Series

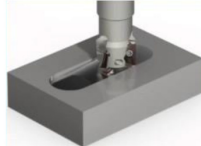


Application

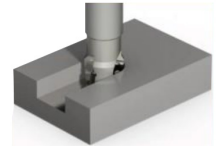
Shoulder Face Milling



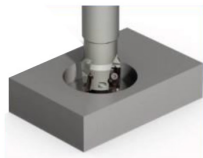
Ramping



Slot milling



Helical milling



Pocketing



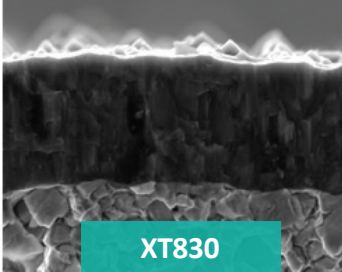
Features

- Cutter diameter: 16-50 mm.
- Double-sided insert: 4 cutting edges.
- a_p max. = 1 mm.
- The convex cutting edge reduces impact while entering the workpiece.

Benefits

- Wide range of application.
- Good chip evacuation prevents chip-biting enabling trouble free operation.
- Multi-edge design allows for cost economy.
- Periphery ground inserts help for high efficiency machineing.

GRADE DESCRIPTION



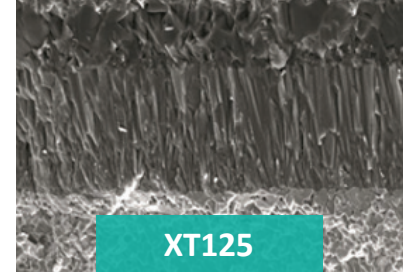
XT830

PVD coating with optimal thermal resistance & added strength. Tough carbide substrate designed for demanding application. Universal grade for all material especially in batch production.



XT820

PVD coated grade suitable for stable and dry operations in medium to high cutting speed. The PVD coating is optimal in case of chip blockage. Ideal for Steel & Cast Iron processing.


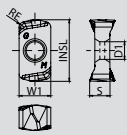


XT125

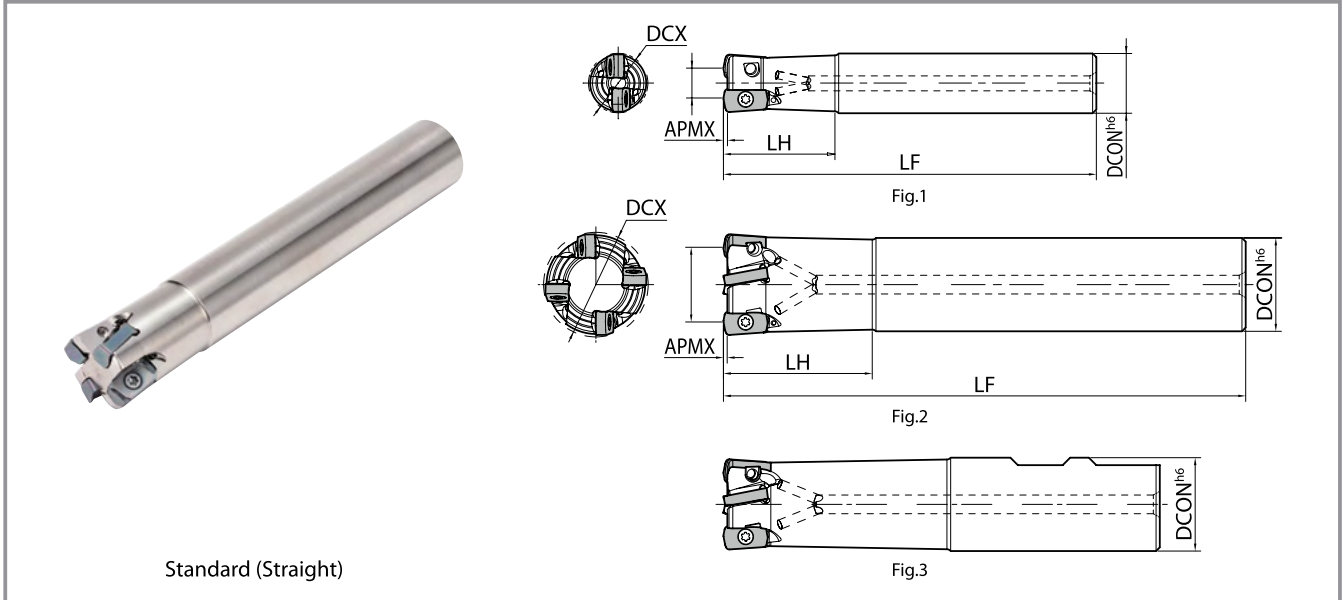
2-4 Q ALCrN+ALCrSiN PVD Coated, Combining with ultra fine particles' substrates with High-Toughness, Suitable for stainless and High Temp Alloys.



HFL | Applicable inserts

Insert	Description	Dimensions (mm)					GRADE		
		W1	S	D1	INSL	RE	XT830	XT125	XT820
 General Purpose	 XOGU110310-GM	6.2	3.96	3.45	11.9	1.0	•	•	•


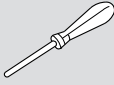
HFL | End mill



Toolholder dimensions

Shank	Description	Availability	No. of inserts	Dimensions (mm)					Rake angle	
				DCX	DCON	LH	LF	APMX	A.R.	
Standard (Straight)	HFL16-S16-03-2T-100L-XOGU11	●	2	16	16	30	100	1	-10°	
	HFL20-S20-03-3T-130L-XOGU11	●	3	20	20	50	130			
	HFL25-S25-03-4T-140L-XOGU11	●	4	25	25	60	140			
	HFL32-S32-03-5T-150L-XOGU11		5	32	32	70	150			
Arbour Type	HFL40R-A16-03-6T-XOGU11		6	40	16	NA				
	HFL50R-A22-03-8T-XOGU11		8	50	22	NA				

Spare parts and applicable inserts

Description	Spare parts		Applicable inserts
	Clamp screw	Wrench	
			
HFL...-XOGU11-...	M3x7	T-8	XOGU110310-GM

*Recommended torque for insert clamp 1.2 nm

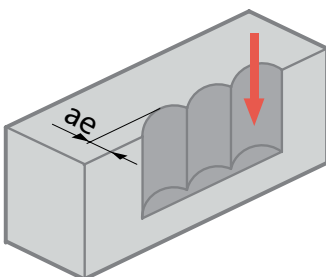
HFL | Recommended cutting conditions

Alloy Steel	Workpiece	Holder description and feed rate (fz: mm/t) Recommended feed ap= 0.5 mm			
		DIA16	DIA20	DIA25	DIA32
p	Carbon Steel	0.2 - 1.2		0.2 - 1.5	
	Alloy Steel	0.2 - 0.9		0.2 - 1.2	
	40HRC	0.2 - 0.5		0.2 - 0.6	
	40 50 HRC	0.2 - 0.9		0.2 - 1.2	
M	Martensitic Stainless Steel	0.2 - 0.9		0.2 - 1.2	
K	Gray Cast Iron	0.2 - 1.2		0.2 - 1.5	
	Nodular Cast Iron	0.2 - 0.9		0.2 - 1.2	
S	Ni-base heat-resistant alloy	0.2 - 0.6		0.2 - 0.8	
	Titanium alloy				

Recommended insert grade (vc:m/min)		
GRADE		
XT830	XT125	XT820
120 - 250	120 - 250	100-250
100 - 220	100 - 220	80-220
80 - 180	80 - 180	NA
40 - 100	60 - 130	NA
150 - 250	100 - 200	100 - 200
100-200	NA	100-200
100 - 200	NA	100 - 200
20 - 50	20-50	NA
40 - 80	40-80	NA

* Ideal parameter range is average of feed
* If we increase ap, reduce feed accordingly

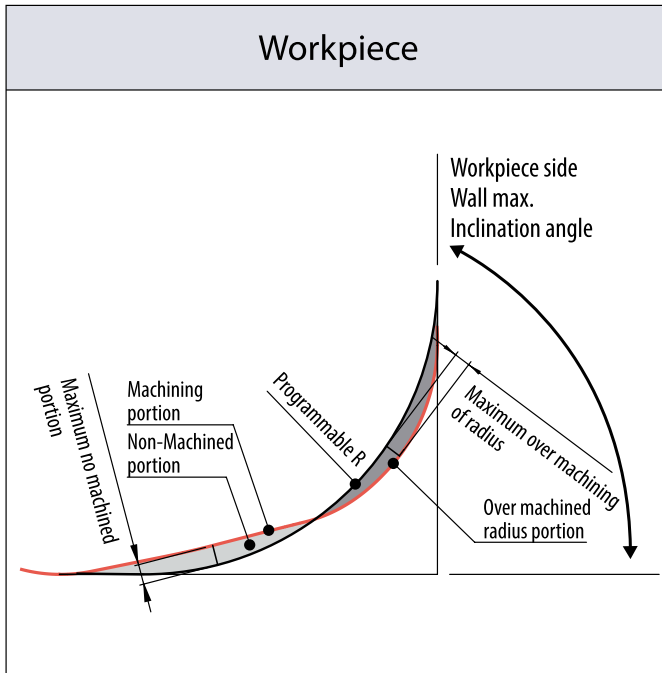
Plunging



Reduce feed rate to $fz \leq 0.2\text{mm/t}$ when plunging.

Description	Maximum width of cut (ae)
HFL	3.5

Approximate programming radius adjustment



HFL		
Programmable R. (mm)	Overcut Portion (mm)	Undercut Portion (mm)
R1.6 (Recommended)	0	0.39
R2.0	0.09	0.35
R2.5	0.26	0.26
R3.0	0.46	0.17

Ramping reference data

Description	Cutter Dia (mm)	16	18	20	22	25	32	40	50
HFL	Max. ramping angle θ	2.8°	2.1°	1.7°	1.4°	1.2°	0.8°	0.5°	0.4°
	$\tan \theta$	0.049	0.037	0.030	0.024	0.021	0.014	0.009	0.007

Authorised Dealer

