

# Just Got Better!

- Excellent Lubricity
- Minimizes Build-up
- Extremely Smooth Surface
- Sharp Cutting Edge

**New!**

**New Grade - 908XRm!**  
for cutting Aluminum

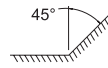


XR4 & XR45  
Face Mills

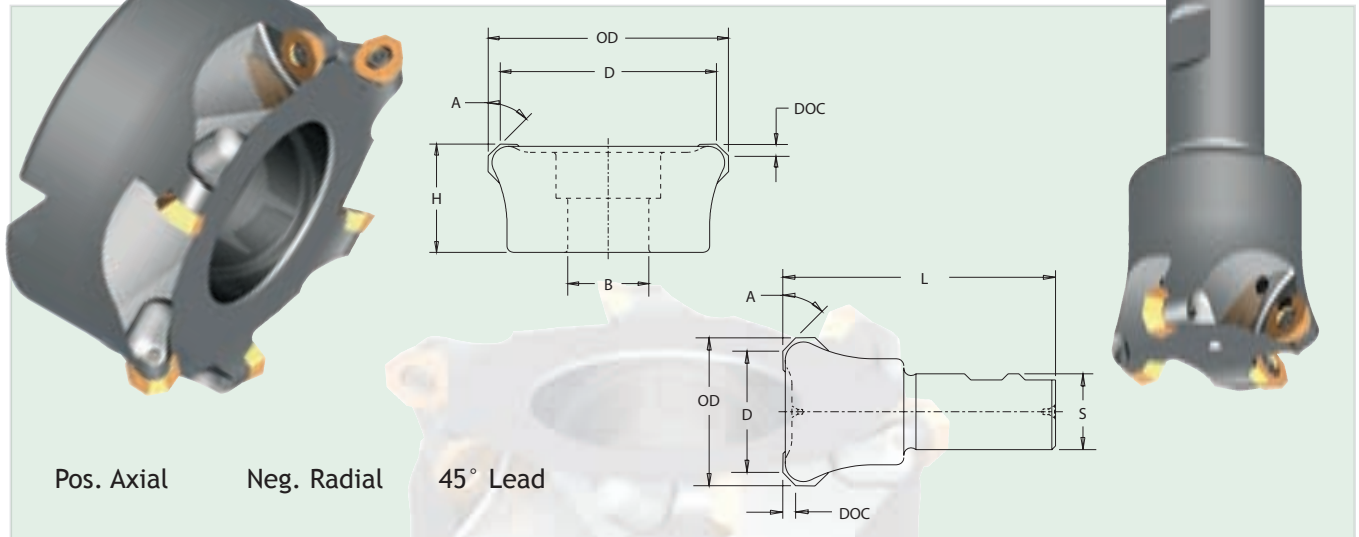
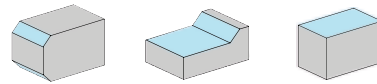


XR4 & XR45  
End Mills

# Positive Face Mills - 45° Shoulder



## XR4 Series - 1/2" IC



### XR4 Series End Mills - Dimensional Specifications

Product Number	D	OD	S	L	A	Max DOC	Teeth
					OECH / RECH	OECH / RECH	
XRE1.25PN45OE4RW.75	1.250	1.55	0.750	4.25	45° / R.250	.140 / R.250	3
XRE1.50PN45OE4RW.75	1.500	1.80	0.750	4.25	45° / R.250	.140 / R.250	3
XRE2.00PN45OE4RW1.00	2.000	2.30	1.000	4.50	45° / R.250	.140 / R.250	4
XRE2.00PN45OE4RW1.25	2.000	2.30	1.250	4.50	45° / R.250	.140 / R.250	4
XRE2.50PN45OE4RW1.25	2.500	2.79	1.250	4.50	45° / R.250	.140 / R.250	5

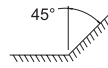
### XR4 Series Face Mills - Dimensional Specifications

Product Number	D	OD	B	H	A	Max DOC	Teeth
					OECH / RECH	OECH / RECH	
XRF2.00PN45OE4R.75	2.000	2.30	0.750	2.000	45° / R.250	.140 / R.250	4
XRF2.50PN45OE4R.75	2.500	2.80	0.750	2.000	45° / R.250	.140 / R.250	5
XRF3.00PN45OE4R1.00	3.000	3.30	1.000	2.000	45° / R.250	.140 / R.250	6
XRF4.00PN45OE4R1.50	4.000	4.29	1.500	2.000	45° / R.250	.140 / R.250	6

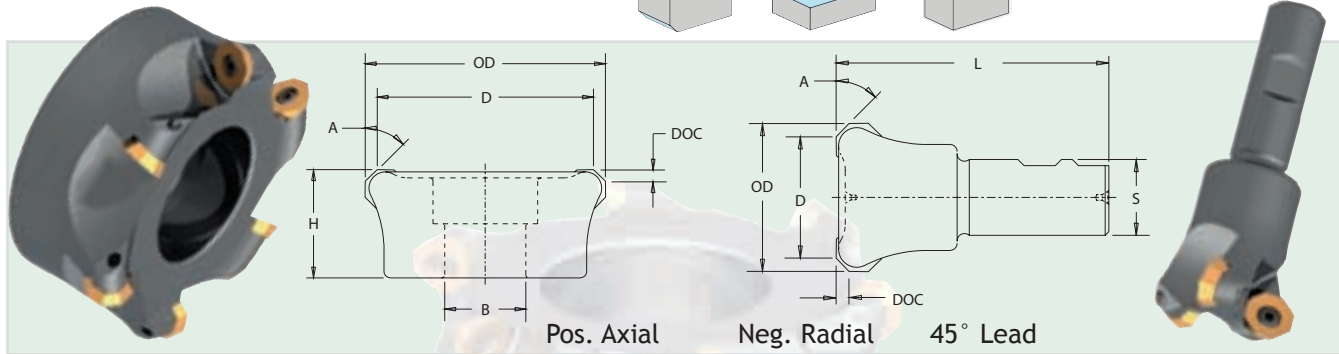
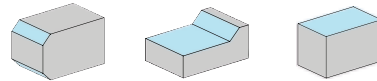
### Accessory Parts

Insert IC x Thickness						
	Insert see page 49	Insert see page 49	Insert see page 49	Insert see page 49	Insert Screw	Wrench
.500 x .188	OECH-432_	OECH-432-10F	RECH-43_	RECH-43-10F	3605-0001-0033	1557-TX15

# Positive Face Mills - 45° Shoulder



## XR45 Series - 5/8" & 3/4" IC



### XR45 Series End Mills - Dimensional Specifications

Product Number	D	OD	S	L	A		Max DOC		Teeth
					OECH / RECH	OECH / RECH	OECH / RECH	OECH / RECH	
XRE1.25PN45OE5RW.75	1.250	1.616	0.750	4.25	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	2
XRE1.25PN45OE5RW1.00	1.250	1.616	0.750	4.50	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	2
XRE1.50PN45OE5RW.75	1.500	1.866	0.750	4.25	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	3
XRE1.50PN45OE5RW1.00	1.500	1.866	1.000	4.50	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	3
XRE2.00PN45OE5RW1.00	2.000	2.366	1.000	4.50	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	3
XRE2.00PN45OE5RW1.25	2.000	2.366	1.250	4.50	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	3
XRE2.50PN45OE5RW1.25	2.500	2.866	1.250	4.50	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	4
XRE2.00PN45OE6RW1.25	2.000	2.440	1.250	4.50	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	3
XRE2.50PN45OE6RW1.25	2.500	2.940	1.250	4.50	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	4

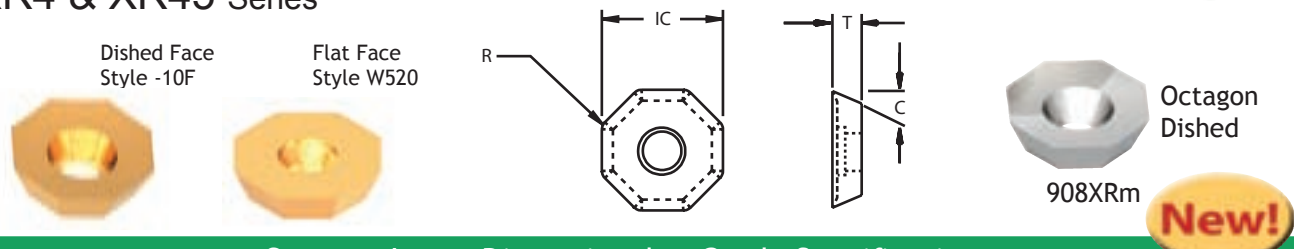
### XR45 Series Face Mills - Dimensional Specifications

Product Number	D	OD	B	H	A		Max DOC		Teeth
					OECH / RECH	OECH / RECH	OECH / RECH	OECH / RECH	
XRF2.00PN45OE5R.75	2.000	2.366	0.750	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	3
XRF2.50PN45OE5R1.00	2.500	2.866	1.000	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	4
XRF3.00PN45OE5R1.00	3.000	3.366	1.000	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	5
XRF4.00PN45OE5R1.50	4.000	4.366	1.500	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	6
XRF5.00PN45OE5R1.50	5.000	5.366	1.500	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	6
XRF2.00PN45OE6R.75	2.000	2.440	0.750	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	3
XRF2.50PN45OE6R1.00	2.500	2.940	1.000	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	4
XRF3.00PN45OE6R1.00	3.000	3.440	1.000	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	4
XRF4.00PN45OE6R1.50	4.000	4.440	1.500	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	5
XRF5.00PN45OE6R1.50	5.000	5.440	1.500	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	6
XRF6.00PN45OE6R2.00	6.000	6.440	2.000	2.000	45° / R.375	.208 / R.375	.208 / R.375	.208 / R.375	7
XRF8.00PN45OE5R2.00	8.000	8.380	2.000	2.000	45° / R.312	.173 / R.312	.173 / R.312	.173 / R.312	9

### Accessory Parts

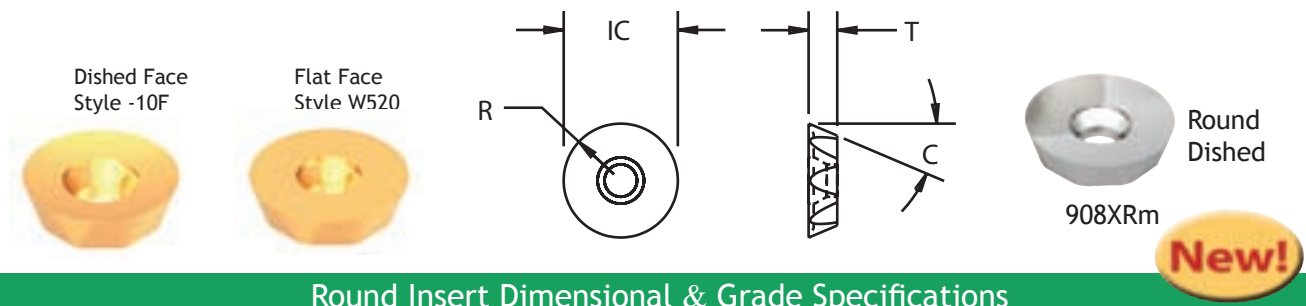
Insert IC x Thickness						
	Insert see page 49	Insert see page 49	Insert see page 49	Insert see page 49	Insert Screw	Wrench
.625 x .188	OECH-534W520	OECH-534-10F	RECH-53W520	RECH-53-10F	3605-0001-0023	1557-TX20
.750 x .188	OECH-634W520	OECH-634-10F	RECH-63W520	RECH-63-10F		

XR4 & XR45 Series



Octagon Insert Dimensional & Grade Specifications

Insert Number	IC	T	R	C	Geometry	586XRm	606jRm	908XRm
OECH-432-10F	0.500	0.188	0.032	23°	+10° Dish	•	•	•
OECH-432W520	0.500	0.188	0.032	23°	Flat w/land	•	•	•
OECH-534-10F	0.625	0.188	0.062	23°	+10° Dish	•	•	•
OECH-534W520	0.625	0.188	0.062	23°	Flat w/land	•	•	•
OECH-634-10F	0.750	0.188	0.062	23°	+10° Dish	•	•	•
OECH-634W520	0.750	0.188	0.062	23°	Flat w/land	•	•	•



Round Insert Dimensional & Grade Specifications

Insert Number	IC	T	R	C	Geometry	586XRm	606jRm	908XRm
RECH-43-10F	0.500	0.188	0.250	23°	+10° Dish	•	•	•
RECH-43W520	0.500	0.188	0.250	23°	Flat w/land	•	•	•
RECH-53-10F	0.625	0.188	0.312	23°	+10° Dish	•	•	•
RECH-53W520	0.625	0.188	0.312	23°	Flat w/land	•	•	•
RECH-63-10F	0.750	0.188	0.375	23°	+10° Dish	•	•	•
RECH-63W520	0.750	0.188	0.375	23°	Flat w/land	•	•	•

Machining Parameters

Material	SFPM	FPT	Primary	Secondary
PH Type Stainless Steel 17-4, 15-5, 13-8	500 - 1200	.003 - .015	OECH-_34-10F GR 606jRm	RECH-_3-10F GR 586XRm
Austenitic Stainless Steel 302, 304, 316	400 - 1350	.003 - .015	OECH-_34-10F GR 586XRm	RECH-_3-10F GR 586XRm
Titanium Alloy 3A1-2.5V, 5A16Sn-2Zr-1mo, 6A14V	125 - 325	.003 - .015	RECH-_3-10F GR 908XRm	RECH-_3-10F GR 586XRm
Nickel Based Material K-Mongel, Inconel 625, A286	100 - 650	.003 - .015	RECH-_3-10F GR 586XRm	RECH-_3-10F GR 586XRm
Carbon Steel 1018, 1020, 1215	600 - 1500	.005 - .020	OECH-_34-10F GR 606jRm	RECH-_3W520 GR 606jRm
Alloyed Steel 4130, 4340, 6150	400 - 1200	.005 - .020	OECH-_34W520 GR 606jRm	RECH-_3W520 GR 606jRm
Tool Steel	350 - 1000	.005 - .020	OECH-_34W520 GR 606jRm	RECH-_3W520 GR 606jRm
Ductile Iron	500 - 900	.003 - .015	OECH-_34W520 GR 606jRm	OECH-_34W520 GR 606jRm
Gray Iron	500 - 900	.003 - .015	OECH-_34W520 GR 586XRm	OECH-_34W520 GR 586XRm
Aluminum 2024, 6061, 7072	900 - 4000	.003 - .015	OECH-_34-10F GR 908XRm	RECH-_3-10F GR 908XRm

**H** = Hard Steel

**P** = Steel    **M** = Stainless    **K** = Cast Iron    **N** = Non-Ferrous    **S** = High Temp Alloy