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V-STAR

A COMPLETE LINE OF VARIABLE HELIX UNEQUAL INDEX END MILLS



Excellent performance for difficult to cut Steels,
Stainless Steel, Exotic Materials and Cast Iron

Improved work surface and tool life with
variable helix and newest flute shape design



V-STAR SERIES

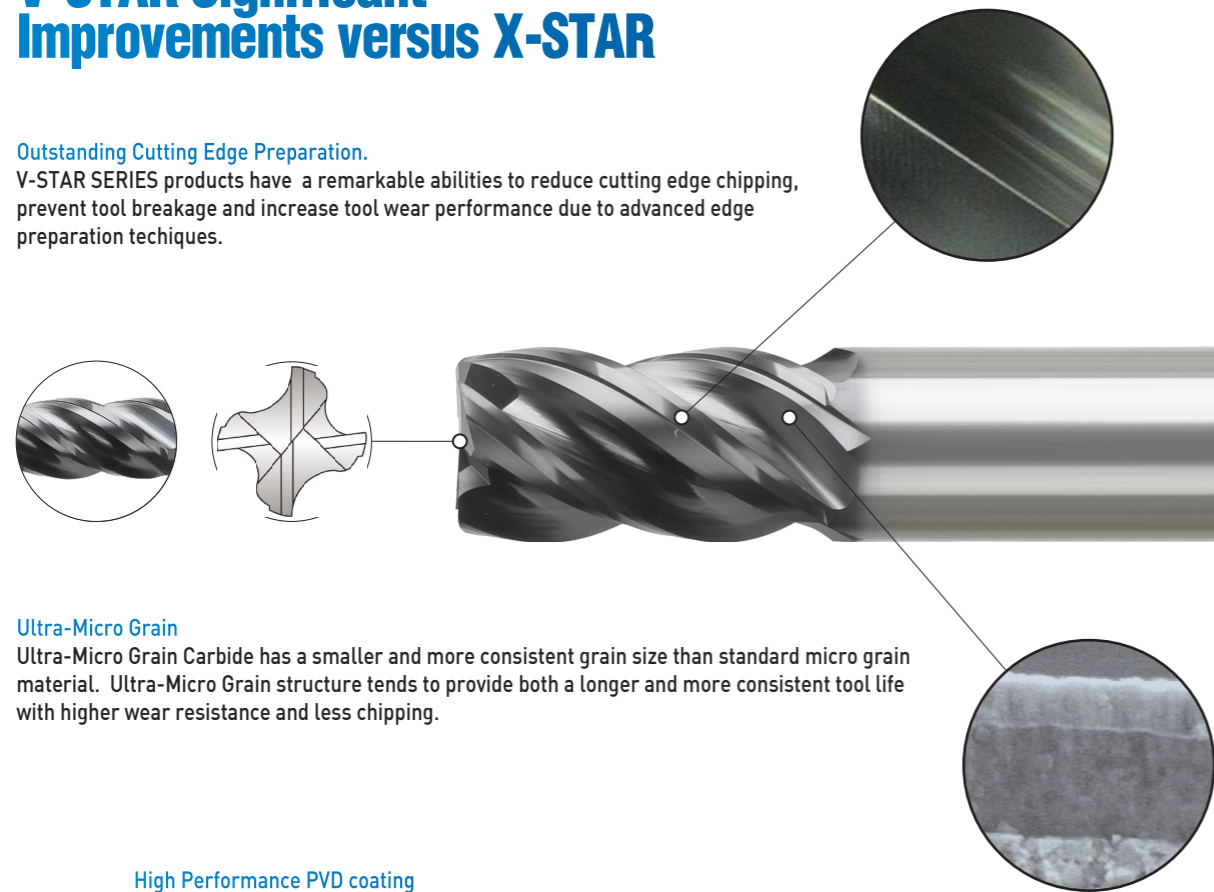
V-STAR SERIES

01

V-STAR Significant Improvements versus X-STAR

Outstanding Cutting Edge Preparation.

V-STAR SERIES products have a remarkable abilities to reduce cutting edge chipping, prevent tool breakage and increase tool wear performance due to advanced edge preparation techniques.



Ultra-Micro Grain

Ultra-Micro Grain Carbide has a smaller and more consistent grain size than standard micro grain material. Ultra-Micro Grain structure tends to provide both a longer and more consistent tool life with higher wear resistance and less chipping.

High Performance PVD coating

AlCr based high quality coating provides superior wear resistance, longer tool life and outstanding prevention to high temperature oxidation of tools.

Variable Helix and Unequal Index

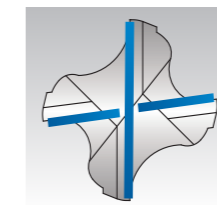
High quality flute surface finishing allows for cutting without chattering and optimized helix angle which provides excellent anti-vibration of tools and a smooth workpiece surface finish.

02

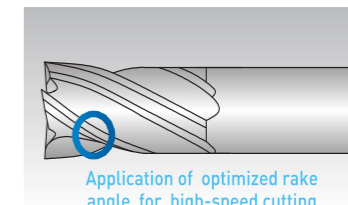
Special Feature

V-STAR Series

- Stable high-speed milling through tool geometry - variable helix and optimized rake angle
- High quality workpiece surface finish due minimization of vibration
- Excellent chip emission with minimization of the attrition



End face



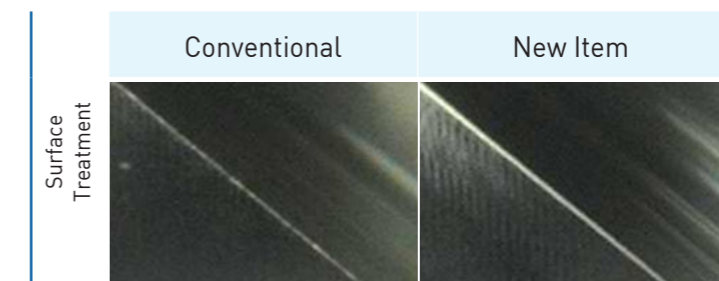
Side cutting edge

03

Improvement points

V-STAR Series

- The most significant improvement points are covered in 01 above.
- Because of geometry and coating micro chips on the flutes is minimized creating better work piece surface finish and longer tool life.

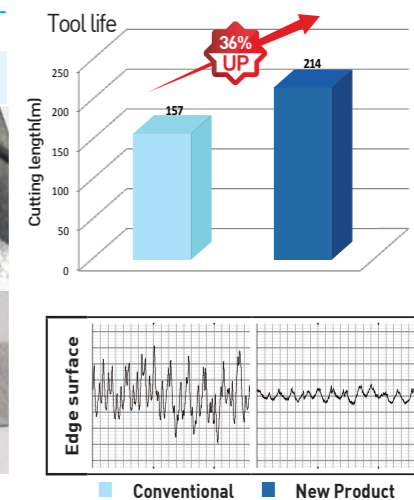
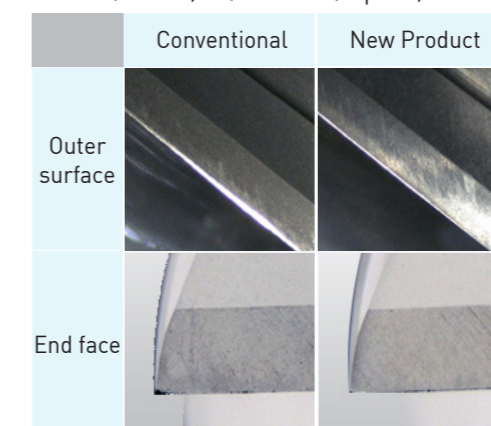


04

Case Study

V-STAR Series

SUS304 / RPM 2,546 / Feed 611 / Ap 15.0, Ae 1.0



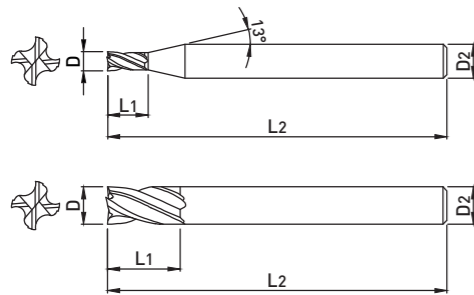
V-STAR SERIES

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VXE504

4 FLUTE CORNER RADIUS VARIABLE HELIX ENDMILL



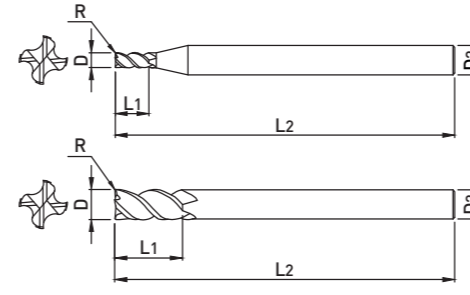
- Excellent performance for difficult to cut Stainless steel, Titanium, Inconel
- Improved work surface and tool life with applying on variable helix and newest flute shape
- Stable high-speed process with application of variable helix and optimized rake angle during work

EDP No	D	L ₁	L ₂	D ₂
VXE504 010	1	2.5	50	6
VXE504 012	1.2	3	50	6
VXE504 015	1.5	4	50	6
VXE504 020	2	6	50	6
VXE504 025	2.5	7	50	6
VXE504 030	3	8	55	6
VXE504 030 10	3	10	60	6
VXE504 035	3.5	10	55	6
VXE504 040	4	10	55	6
VXE504 040 12	4	12	60	6
VXE504 045	4.5	12	55	6
VXE504 050	5	15	55	6
VXE504 055	5.5	15	60	6
VXE504 060	6	15	60	6
VXE504 060 20	6	20	65	6
VXE504 065	6.5	15	60	8
VXE504 070	7	20	80	8
VXE504 080	8	20	70	8
VXE504 080 25	8	25	70	8
VXE504 080 30	8	30	80	8
VXE504 085	8.5	20	70	10
VXE504 090	9	25	80	10
VXE504 100	10	25	75	10
VXE504 100 35	10	35	85	10
VXE504 120	12	30	80	12
VXE504 120 40	12	40	90	12
VXE504 140	14	35	90	16
VXE504 160	16	42	100	16
VXE504 180	18	45	100	16
VXE504 200	20	48	100	20



VXR504

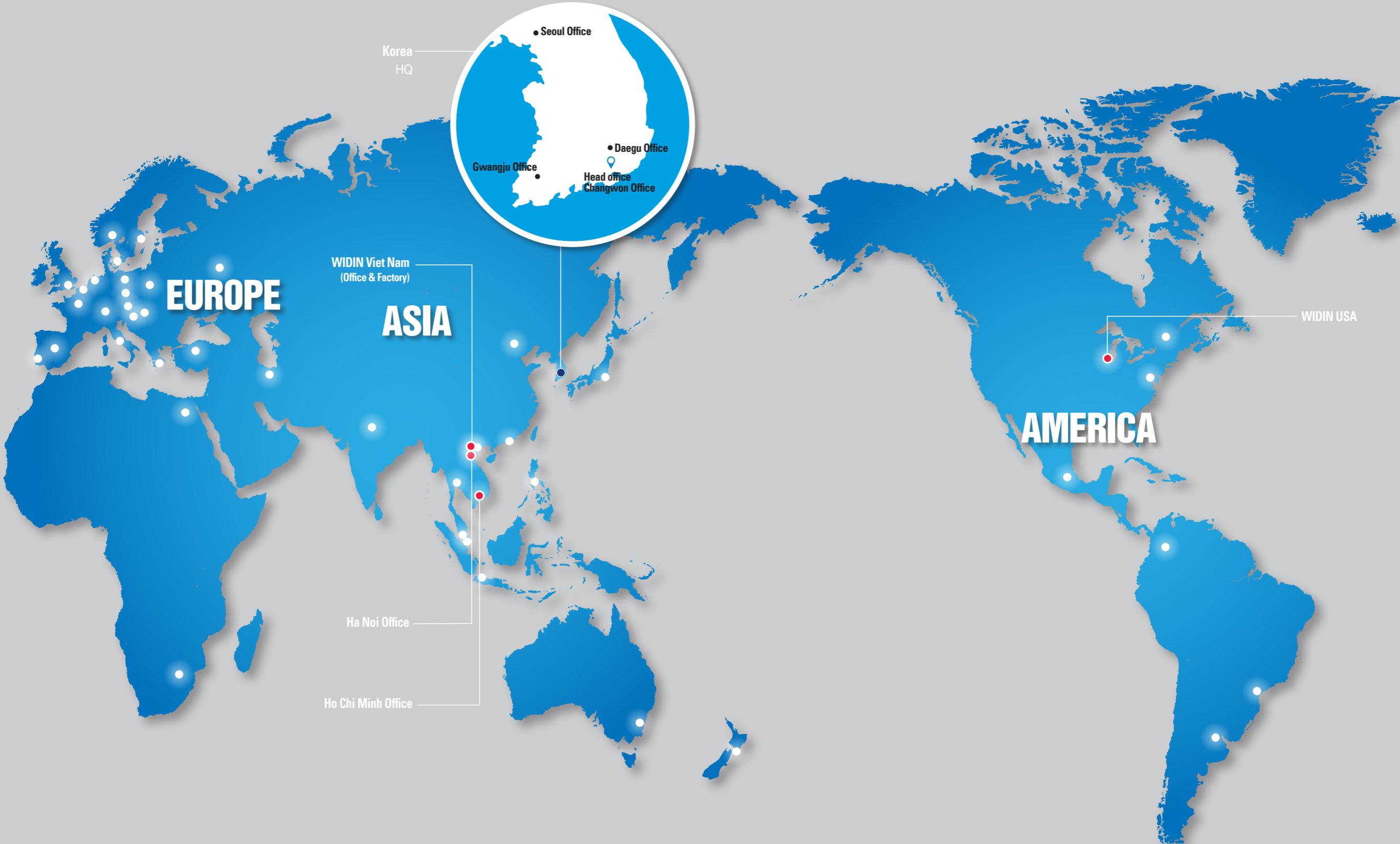
4 FLUTE CORNER RADIUS VARIABLE HELIX ENDMILL



- Excellent performance for difficult to cut Stainless steel, Titanium, Inconel
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EDP No	D	R	L ₁	L ₂	D ₂
VXR504 010	1	0.1	2.5	50	6
VXR504 010 02	1	0.2	2.5	50	6
VXR504 012	1.2	0.1	3	50	6
VXR504 015	1.5	0.1	4	50	6
VXR504 015 02	1.5	0.2	4	50	6
VXR504 020	2	0.1	6	50	6
VXR504 020 02	2	0.2	6	50	6
VXR504 025	2.5	0.2	7	50	6
VXR504 030	3	0.2	8	55	6
VXR504 030 03	3	0.3	8	55	6
VXR504 030 05	3	0.5	8	55	6
VXR504 040	4	0.2	10	55	6
VXR504 040 03	4	0.3	10	55	6
VXR504 040 05	4	0.5	10	55	6
VXR504 050	5	0.2	15	55	6
VXR504 050 03	5	0.3	15	55	6
VXR504 050 05	5	0.5	15	55	6
VXR504 060	6	0.3	15	60	6
VXR504 060 05	6	0.5	15	60	6
VXR504 060 10	6	1	15	60	6
VXR504 080	8	0.3	20	70	8
VXR504 080 05	8	0.5	20	70	8
VXR504 080 10	8	1	20	70	8
VXR504 100	10	0.3	25	75	10
VXR504 100 05	10	0.5	25	75	10
VXR504 100 10	10	1	25	75	10
VXR504 100 15	10	1.5	25	75	10
VXR504 100 20	10	2	25	75	10
VXR504 100 30	10	3	25	75	10
VXR504 120	12	0.5	30	80	12
VXR504 120 10	12	1	30	80	12
VXR504 120 15	12	1.5	30	80	12
VXR504 120 20	12	2	30	80	12
VXR504 120 30	12	3	30	80	12
VXR504 120 40	12	4	30	80	12
VXR504 140	14	0.5	35	90	16
VXR504 140 10	14	1	35	90	16
VXR504 160	16	0.5	42	100	16
VXR504 160 10	16	1	42	100	16
VXR504 180	18	0.5	45	100	16
VXR504 200	20	0.5	48	100	20
VXR504 200 10	20	1	48	100	20

GLOBAL NETWORK



2020.05



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