



WINTER



V-POWER

Better Cost Performance, Closer to You

KEY INDUSTRY
AUTOMOTIVE

KEY APPLICATION
OUTER DIAMETER GRINDING



V-POWER

Developed based on a world-leading WINTER technology platform

It brings you multiple benefits:

-  Outstanding performance to meet technical outputs
-  Excellent overall cost performance
-  Shorter lead time
-  Better local technical service



V-POWER wheels are mainly used for outer diameter OD grinding, helping you achieve all the quality and productivity objectives. V-POWER is suitable for the following parts

Crankshaft Grinding

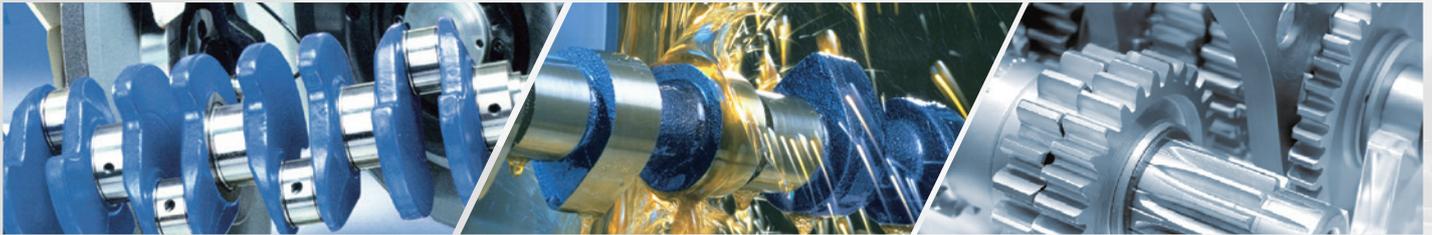
Main Shaft / Pin Shaft / Thrust Surface / Bearing & Flange End

Camshaft Grinding

Main Shaft / Lobe / Bearing & Flange End

Other Automotive Components Grinding

Gear Shaft/Balance Shaft and etc.



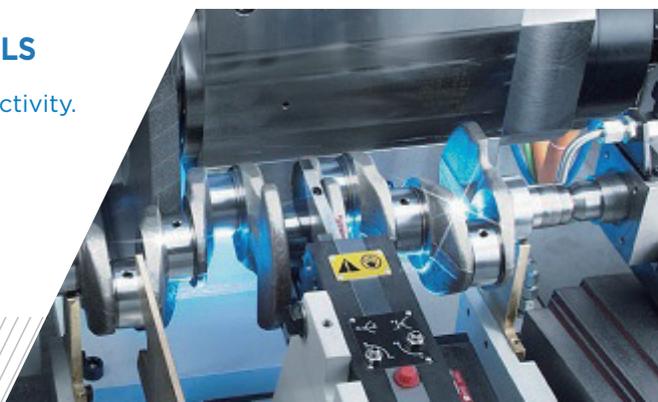
FEATURES AND BENEFITS

FEATURES	BENEFITS TO CUSTOMER
Developed from WINTER technology platform	<ul style="list-style-type: none"> • Meet all of the customers' basic technical output requests • Guaranteed performance consistency
Make in India through <ol style="list-style-type: none"> i. New wheels Assembled and Finished in India ii. Resegmenting / Recoat on used hub 	<ul style="list-style-type: none"> • Lower total grinding cost • Faster response speed & local technical support • Shorter lead time compared with imported products

SOLUTIONS FOR TRUING AND DRESSING V-POWER WHEELS

V-POWER wheels can be trued and dressed online for maximum productivity.

- Direct plated Diamond Roller
- Metal bond Diamond Roller



AVAILABILITY

V-POWER wheels are made-to-order to your exact requirements. They're available in a variety of wheel sizes and in segmented designs to meet your specific needs.

Product Dimensions	Product Tolerance	Weight (kg)	CBN grit	Balance	Wheel speed (m/s)
Diameter (mm) 80-700	Outer Dimeter (mm) 0.2	up to 100	B64-B252	G1	Up to 160
CBN width (mm) up to 120	CBN width (mm) 0.05				



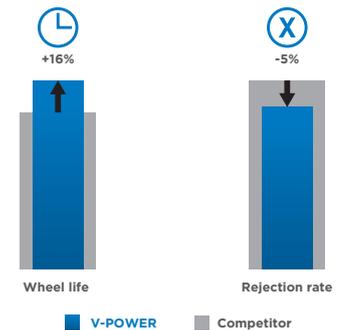
CASE STUDY #1

Crankshaft Grinding in Passenger Cars

Machine: Landis
Norton Winter: V-POWER
Competitor A: A tier-1 international wheel supplier from Korea
Grinding Speed: 90 m/s
Coolant: Q3601 (4%-6%)
Workpiece: FCD600 (HB207-269)
Dresser: CNC dresser

RESULTS:

- V-POWER had the same dressing interval with Competitor A, but its stable performance led to 5% down in rejection rate;
- V-POWER had 16% longer wheel life than Competitor A, because its stable performance significantly reduced unplanned dressing.



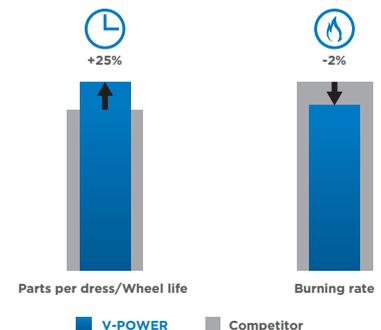
CASE STUDY #2

Crankshaft Grinding in Trucks

Machine: Landis
Norton Winter: V-POWER
Competitor B: A tier-1 international wheel supplier from Japan
Grinding Speed: 60-80 m/s
Coolant: Emulsion
Workpiece: C38N2 (HRC52-57)
Dresser: CNC dresser

RESULTS:

- Compared with Competitor B, V-POWER reduced burning rate of the workpiece by 2%, due to its excellent cool cutting and stable performance;
- V-POWER had 25% longer wheel life than Competitor B, because of much longer dressing interval.



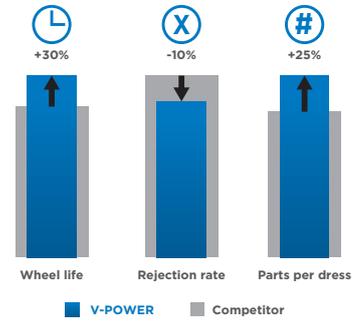
CASE STUDY#3

Camshaft Grinding in Passenger Cars

Machine: Junker grinding machine
Norton Winter: V-POWER
Competitor C: A well-known wheel supplier from China
Grinding Speed: 90-120m/s
Coolant: Pure oil
Workpiece: Steel
Dresser: CNC dresser

RESULTS:

- By using V-POWER, workpiece surface finish was very stable, achieving Ra0.25 -Ra0.27 within each dressing interval, thus the rejection rate was down by 10%;
- V-POWER had 30% longer wheel life than Competitor C, because it had much longer dressing interval and its stable performance significantly reduced unplanned dressing.



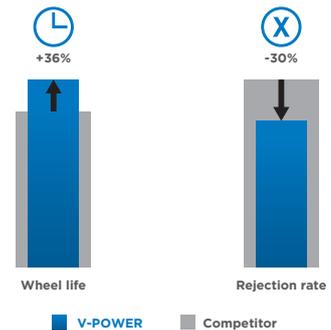
CASE STUDY #4

Balance Shaft Grinding in Passenger Cars

Machine: GST grinding machine
Norton Winter: V-POWER
Competitor D: A tier-1 international wheel supplier from Germany
Grinding Speed: 80-100m/s
Coolant: Pure oil
Workpiece: Steel
Dresser: CNC dresser

RESULTS:

- V-POWER eliminated burning and scratch issues caused by Competitor D, because of its stable performance, thus lowered rejection rate by 30%;
- V-POWER had 36% longer wheel life than Competitor D, because it had much longer dressing interval and its stable performance significantly reduced unplanned dressing.



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