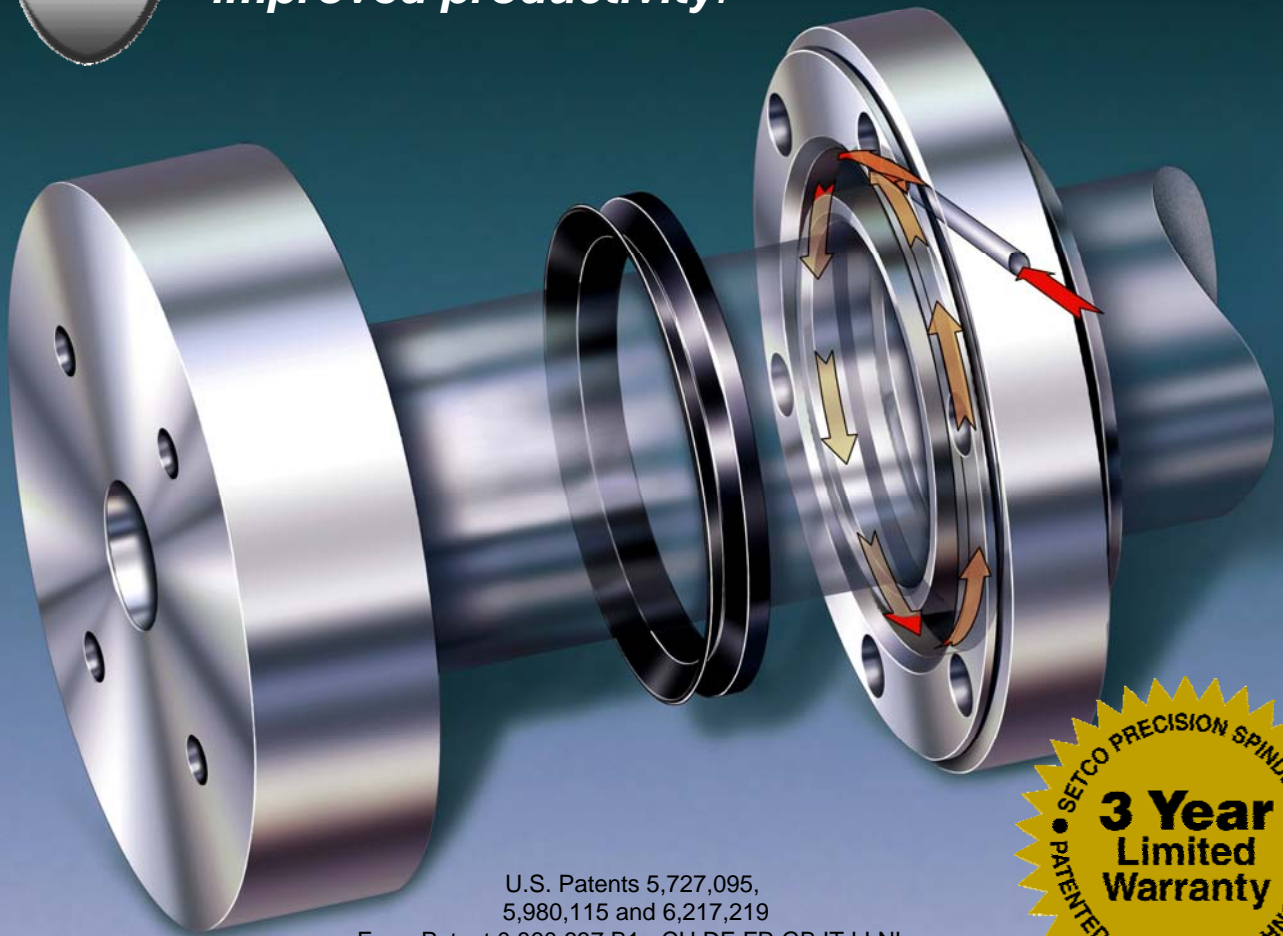




The AirShield™
Ask for it by name for
improved productivity!



U.S. Patents 5,727,095,
5,980,115 and 6,217,219
Euro. Patent 0 860 637 B1 - CH DE FR GB IT LI NL



SETCO AirShield™

Revolutionary Design Eliminates #1 Cause of Spindle Failures- Bearing Contamination!

- **Extensive Field Testing for Over 5 Years**
- **Highest Reliability and Longest Life Cycle**
- **Best Warranty in the Industry!**

SETCO™

AirShield™ Ends Coolant and Contamination Ingress!

With over 100,000 spindles in the field and 90+ years' spindle manufacturing experience, SETCO understands why spindles fail... and has now eliminated the #1 cause of spindle failure!

Eliminates # 1 Cause of Spindle Failures:

Bearing Failure, due to:

- Coolant Ingress
- Condensation
- Contamination
- Chip Damage

Over the last decade, changes in manufacturing have subjected spindles to the most severe operating conditions ever experienced. The use of **faster cutting speeds** and **high-volume and concentrated high-pressure coolant** became the practice to improve productivity. The **move to dry-floor guarding** made operating conditions more severe by making the machines more difficult to clean, increasing operating temperatures and intensifying humidity. **If the seals didn't fail during machining, they failed during cooldown as the spindles sucked coolant and contaminates past the spindle seals and into the bearings.** It is these conditions that cause premature spindle failure and the seal conditions that the new AirShield™ has **completely eliminated!**

100% Solution

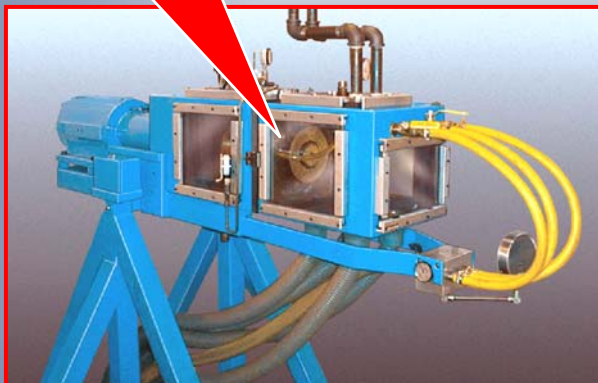
SETCO, the world leader in spindle design, manufacture and rebuild, has patented the revolutionary AirShield spindle seal system – a solution resulting from extensive research and development, field testing, and a 5-year study. The results speak for themselves: The AirShield has proven to be a 100% solution for coolant ingress and spindle bearing contamination.

With over 800 AirShield-equipped spindles in the field – some running more than 34,000 hours and spanning five years – the AirShield has performed without failure. The testing is conclusive: the AirShield has eliminated the #1 cause of spindle failure – bearing contamination. To back this statement, we tripled our standard warranty and now offer a 3 Year Limited Warranty.*



The SETCO AirShield:

- ✓ Increases spindle uptime
- ✓ Increases part throughput capability
- ✓ Reduces spindle maintenance costs
- ✓ Reduces manufacturing costs



The SETCO AirShield simulator produced the harshest machining environment imaginable: high pressure/high volume confined coolant and varying temperatures involving varying start-up and cool-down cycles.

Other Advantages:

- AirShield performance is not affected by speed or directional rotation.
- The AirShield can be applied at any attitude: horizontal, vertical or angular mount.

Double the Protection.
Triple the Warranty.

1. Dynamic Shield (Running Mode)

Standard AirShield spindles are equipped with a unique tangential air purge system. As air enters the spindle, a patented internal porting arrangement equalizes and disperses supplied air. Equalized air gradually escapes by gently lifting the Viton seal from its contact surface providing a near-frictionless design.

2. Static Seal (Stopped Mode)

With purge air off, and in machine washdown condition, the Viton lip seal closes, creating the equivalent of a rubbing seal to prevent contaminants from entering the spindle.

And unlike other air seal systems, the AirShield design does not inhibit spindle bearing lubrication. The AirShield is non-contaminating, maintenance-free, and requires only standard clean and dry shop air.

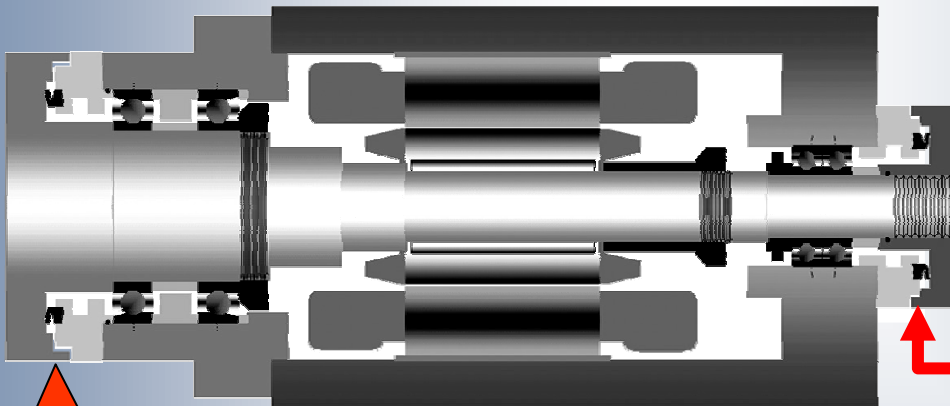


Top. Patented AirShield design equalizes and disperses air within the seal for 100% elimination of coolant ingress and spindle contamination. The flexible Viton seal ensures protection in both dynamic and static conditions.

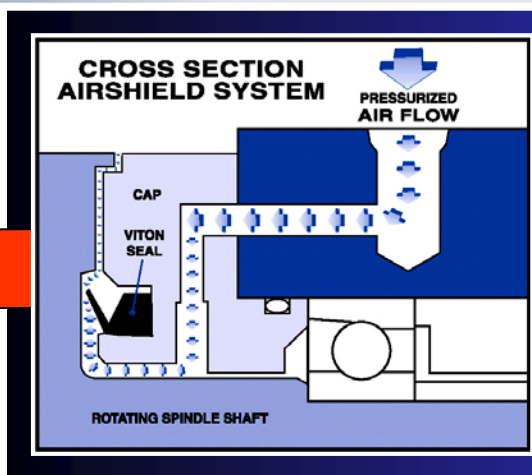
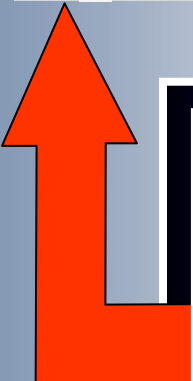


Right. Traditional labyrinth air seals provide a non-uniform air purge that allows contaminants to enter the spindle during operation and cool-down.

Ask About Our "Universal" AirShield™ for Spindle Rebuild Applications!



AirShield protects rear bearing and motor from coolant union and coupling failure!



- ✓ 100% elimination of front & rear bearing contamination!
- ✓ Reduces manufacturing costs by reducing spindle maintenance!
- ✓ Increases machine uptime!
- ✓ Standard on SETCO Sentry™, ProMetrix™ and selected Motorized spindles!

To learn more about how the AirShield can increase your uptime and decrease your costs, call 1-800-543-0470 or visit www.setcousa.com.

YOUR SINGLE SOURCE

For Repair, Rebuild, Exchange, New – Plus a Total Range of Related Services to Enhance Your Just-In-Time Manufacturing

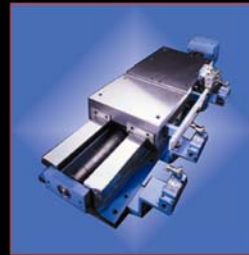
PRODUCTS



Dovetail Slides



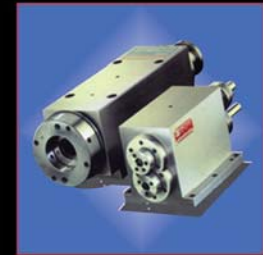
Linear Recirculating Bearing Slides



Hardened Steel Way Slides



Grinding Spindles and Accessories



Boring and Milling Spindles



Sentry Belt-Driven Spindles



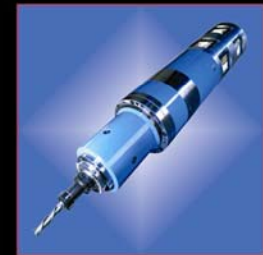
Spindle/Slide Combinations



3-Axis Machining Modules



ProMetrix Belt-Driven Spindles



Smart Closed-Loop Motorized Spindles

SERVICES



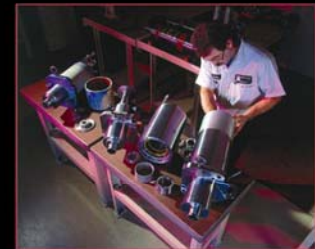
Total Solution Team Engineering



Field Service and Vibration Analysis



State-of-the-Art Slide Repair



Leading Edge Spindle Repair



Complete In-House Manufacturing, Assembly



Hands-On Spindle and Slide Repair Training

SETCO™

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