

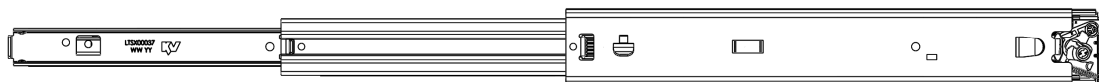


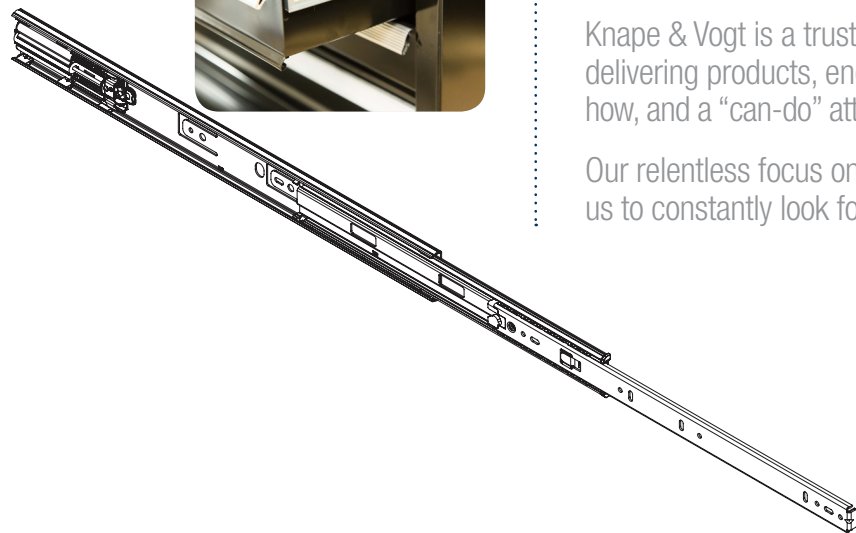
Optimizing Toolbox Safety & Performance:

New options to improve your products

Knape and Vogt's slides and hardware help keep working people around the world productive, safe, and organized. Our drawer slides are built into tool storage solutions for OEMs who demand high-quality performance and durability.

We understand that, because we share these same values—maintaining our integrity as a trusted supplier for more than a century.





Reliable day-to-day performance is essential in putting tools into the hands of the world's workforce.

In the shop... built into a truck... or out on the road, today's toolboxes keep work tools close-at-hand and organized for today's professionals. The ruggedness and "feel" of your products—along with the ability to promote safety and security—are the key values driving product design.

When it comes to drawer slides, Knap & Vogt supports your value proposition.

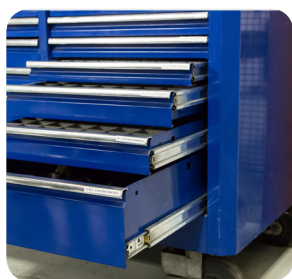
Engineers, designers, or procurement experts in toolbox manufacturing need suppliers who can match their pace, meet cost demands, and confidently complete projects on time.

Knap & Vogt is a trusted partner to many of the top players in the industry, delivering products, engineering expertise, practical manufacturing know-how, and a "can-do" attitude.

Our relentless focus on advancing "the business of motion" has conditioned us to constantly look for better ways to further the goals of our customers.



KNAPE & VOGT

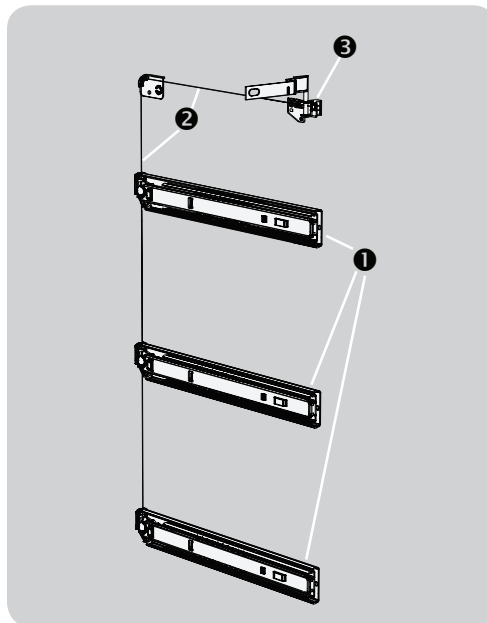


KV 8800 Series INTERLOK™ 200 lbs. Class



KV 8400 Series INTERLOK™ 100 lbs. Class

INTERLOK™ Anti-Tilt System



- 1 Slide Assembly
- 2 Cable Guide, 3 Drawer
- 3 Security Lock Integration

- Integrated anti-tilt mechanism
- Increased design flexibility
- Integration with security locks
- Reduced number of components
- Streamlined installation

This patented anti-tilt technology is an example of Knap & Vogt's innovation and design expertise. Knap & Vogt's INTERLOK™ system improves efficiencies and trims

costs at multiple points in the design/manufacture/training/support cycle. We welcome every opportunity to learn and share your priorities in order to continually raise the bar on performance and value.



KNAPE & VOGT®



Heavy duty slides for mobile and industrial storage applications

When extra strength and durability are required, the 8900 series meets your needs. KV's 8900 supports loads from 100 up to 500 lbs. depending on application and is available in sizes ranging from 10" to 60"

KV's 8908 locking slide is an example of our design and innovation expertise that sports the following industry leading features:

- Patented Uni-Directional Action automatically engages locking mechanisms without having to operate a separate lever permitting one handed operation
- Spring-Activated latches allow mounting in vertical and horizontal applications
- Non-handed design cuts skus needed in half
- Ergonomically designed handle is removable to accommodate alternative handle or lock bar solutions
- Lock out only (8909) and lock in only (8910) models available.



KV 8900



KV 8908



Early stages

- Identify Trends
- Define Problem/opportunity
- Ideation
- Brainstorm project specs
- Explore existing solutions
- Share application expertise
- Refine concepts & designs

Development/Testing

- Benchmarking
- In-house prototyping
- In-house testing
- CAD integration
- Sample production/support

Tooling/Manufacturing

- U.S. & International
- Pre-tool sample support
- Project management
- Schedule-driven

Deliver and Support

- Global QA & support
- On-time / On-budget
- Responsive services
- Proven logistics and inventory support

A well-honed process keeps everything moving forward.

Working together with office furniture manufacturers and product development experts, our motion engineers, testers, fabricators, and logistics personnel help ensure the success of your design, taking your idea from concept to shipment of finished components anywhere in the world.

Engage us at any point in the process and we'll quickly become a responsive and effective part of your team.

Knape & Vogt expertise includes:

- Engineering, Modeling and Prototyping
- Project Management
- Fabrication and Manufacturing at-Scale
- Product Testing, QA, and Regulatory Validation
- Value Engineering
- Global Supply Chain Support & Service



KNAPE & VOGT



Optimizing your slide design characteristics

*In designing a precision ball bearing slide, there are 10 main characteristics to consider.
The Knap & Vogt team is ready to match our products and capabilities to your requirements.*

PROFILE PLATFORM

To meet application needs
2- and 3-member solutions
www.knapandvogt.com/slide-profiles

EXTENSION/TRAVEL

- One-way travel
- Two-way travel
- Full extension
- Less or more than full extension

EFFORT

Target effort specs needed to put Sliding system in motion and/or keep it in motion

ATTACHMENTS

Key attachment & locating features

- Bayonets/Beltloop
- Hole pattern
- Brackets

POSITIONING

Detent options include:

- Full forward
- Rearward
- Multiple position

LOCKING/SECURITY

- Lock-out-open
- Lock-in-closed
- Lock-in and out
- Anti-tilt mechanism
- Security lock integration

CLOSURE

- Push-to-open
- Self-close
- Soft-close

STABILITY

- Structural enhancements include C-channel and L-channel reinforcements
- Racking support

SOUND

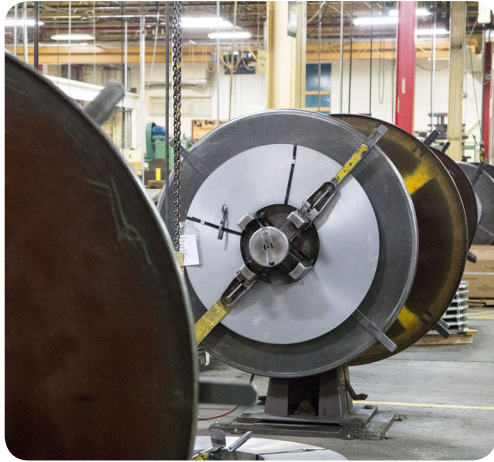
- Sound-sensitive applications
- Dampening requirements

APPEARANCE

What materials and finishes are required?



KNAP & VOGT®



VAVE Challenges: Finding ways to remove costs without sacrificing performance

Virtually all of our customers face ongoing pressure to lower costs and improve efficiency. Fortunately, more than 100 years of innovation have given us the ability to find new VAVE opportunities—even within the most established brands and products. We've been able to help customers:

“Right-size” Applications – Moving from a 100-lb slide to a more-than-adequate 75-lb slide for box files has helped several customers achieve key economies. Substituting shorter lengths or creating custom lengths can reduce material costs significantly—savings that extend to shipping and freight as well.

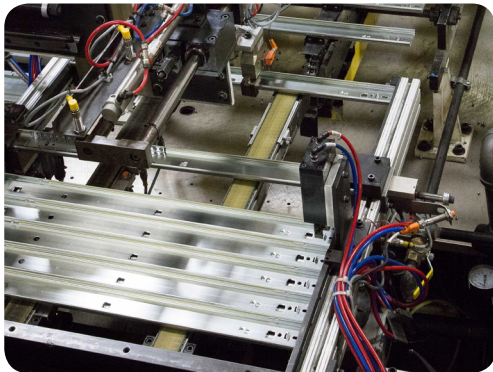
Explore Alternate Materials – If your application doesn't really require high-strength steel, or if you can substitute a lower gage hot rolled steel, we can show you some lower-cost options that deliver excellent performance.

Optimize your Supply Chain – Knap & Vogt owns and manages manufacturing and distribution sites around the world. For one U.S. customer, “on-shoring” trimmed their production lead-time window from 60 days to just 15. Our state-of-the-art ERP facilitates advanced JIT, and demand-based logistics optimizes timely inventory availability and turns.

Capture Efficiencies via Smart Packaging – We offer a wide variety of packaging methods to suit individual customer preferences and their goals for production efficiency, environmental/re-usable sustainability, and inventory automation. We'll even split track and cabinet members in our Q-Pack configuration to feed different parts of your line.



KNAP & VOGT



A collaborative approach to Value Analysis / Value Engineering...

Knape & Vogt engineers are veteran problem solvers and welcome your challenges in security, access, storage, aesthetics, and ergonomics.

In approaching any project, our multi-disciplined team (design, engineering, manufacturing, packaging, logistics) applies proven VAVE principles to uncover more opportunities for refinement and improvement along every step in the value chain.

Our team's broad expertise across diverse industries leads to innovative solutions achieved through a practical, no-nonsense process.

Whether we suggest a cost-effective, in-stock solution to meet an essential function, adjust our packing or logistics processes to better suit your line, or work closely with you to co-develop a custom component for a new application, you can be sure that Knape & Vogt's relentless pursuit of *"the business of motion"* will move your company forward—with confidence.



KNAPE & VOGT



Everywhere you need us to be.

Based in Grand Rapids, MI—with manufacturing and distribution in North America and Asia—Knap & Vogt exceeds the highest demands of our customers, matching uncompromising quality with reliable logistics and superior customer support. Our global support network is available to you at a moment's notice.

We welcome your inquiries.

Whether you're just beginning to brainstorm a new design—or you're pressed to execute a project already underway, our engineers and sliding systems experts stand ready to lend a hand. Please contact us and let us know how Knap & Vogt can help set you apart from the competition.



KNAPE & VOGT®