

MORE BITE FOR YOUR MONEY

KVX FOR UNDERGROUND

KVX



**THE UNIQUE BOLT-ON
G.E.T. SYSTEM**

www.kvx.no





SYSTEM FOR UNDERGROUND

11-70 ton

KVX has decades of experience with underground systems and has supported mining operations all over the world.

The well-proven bolt-on solution started in the eighties in Scandinavian underground mines and has gained high acceptance and popularity. KVX then developed in the Australian market and today KVX provides underground systems for customers all over the world.

The system provides a welding-free GET solution where change of replaceable wear segments can potentially be performed down in the mine.



- ✓ **Less downtime**
- ✓ **More production**
- ✓ **No need of welding skills**



KVX produces underground GET for machines ranging from 11 to 70 tons. Whatever the brand of your machine, KVX will have a solution.

- Joy 22HD, Joy LT-650-1051,
- Atlas Copco ST7-ST1030-ST14
- Caterpillar R1300G-R2900G-R3000
- Sandvik LH307-LH410- LH514-LH621
- *and others*

UNDERGROUND LHD BUCKETS

KVX's Underground LHD Buckets combine the key features and benefits of KVX's Buckets and GET systems to provide a highly attractive LHD bucket solution.

- The KVX system provides **more natural protection under the Base Lip** eliminating the necessity for Profile Bars and a number of other underside protection items (better protection and less parts = superior reliability and reduced maintenance time/cost).
- With its **very slim profile and smooth floor design** the KVX GET system ensures free material flow into and out of the Bucket (no hang-ups!) and **superior penetration**, resulting in less tire spin, improved fuel economy, less wear and tear on driveline, pins and bushes and better productivity.
- Thanks to the **KVX Base Lip** (hardened to ~500HB) little or no Front Lip protection is required. KVX technology assures **almost zero welding maintenance**.
- KVX LHD Buckets feature the same **unrivalled GET retention** as our Wheel Loader or Excavator systems, significantly reducing the risk of breakage, loss or unplanned maintenance, as well as the even more significant downstream costs of fixed plant and production stoppages.
- KVX also incorporate our Sagitta® steel wearparts into other high wear areas on the buckets, providing **a wear package which is light but which also offers a unique combination of hardness and toughness** to address both the high wear and extreme impact encountered in underground operations. KVX wear protection options include : front protector list, wear bars, heel shrouds, wear buttons and chocky bars... You can customize as you want.

Our **uniquely engineered Underground LHD Buckets** have significantly outperformed OEM Buckets even in the toughest and most extreme applications and conditions in underground mining.

The combination of the KVX GET system and KVX's specialised Bucket design/ manufacturing technologies provide the underground mining industry with an unrivalled LHD Bucket option.

WATCH MOVIE:
**KVX underground
in Australia**





UNDERGROUND LHD GET

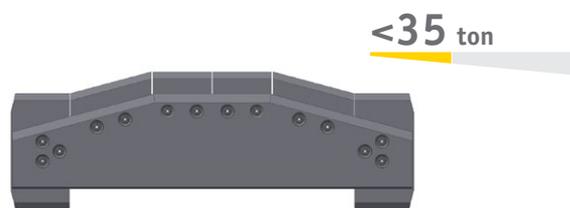
K VX GET is a “system”, where the Lip and other GET components work together to bring you unique benefits.

Some of our wear plates are reversible. When they have worn out on one side, you just have to turn them around and start using them on the other side.

Our GET system is available for different sizes of machines and suits all makes and models.

YOUR MACHINE WEIGHS LESS THAN 35 TONS?

Our concept includes a reversible corner wear plate with 3 bolts. The lip is available as “delta” or “pointed” with different lengths. You can choose the quantity and shape or wear plates.



THIS CONCEPT IS SUITABLE FOR:

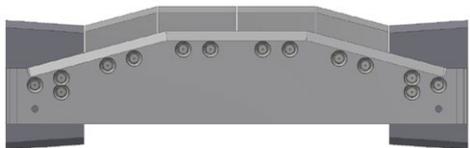
- *11-23 ton range machines:* Atlas Copco ST7, Sandvik LH307, CAT R1300, Joy LT-650... (K VX size M36)
- *23-35 ton range machines:* Joy LT1051, Sandvik LH410, CAT R1600, Atlas Copco ST1030... (K VX size M48)



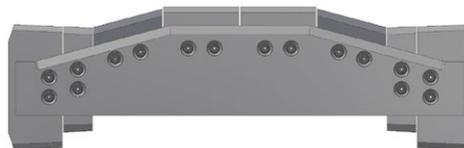
>35 ton

YOUR MACHINE WEIGHS MORE THAN 35 TONS?

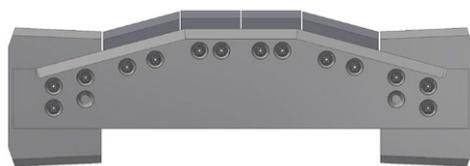
We have developed several concepts to meet all the specific requirements and needs of underground operators.



Our standard concept is similar to the one for smaller sizes. We recommend it for a traditional open stoping utilization with medium impact and abrasion.



Another concept offers smaller corner wear plates with only 2 bolts. We recommend it when you change the corner plates often but with limited impact.



For large remote-controlled machines with high impact on corners, we recommend to use corner wear plates with at least 3 bolts for "extra heavy duty" conditions or 4 bolts for "extreme" conditions. It will ensure not losing the corner wear plates in case of high impact.



We also propose solutions with single-end wear plates, and with combination teeth / wear plates ...

Depending on your application and your needs, K VX will have a solution for you.

ALL OUR CONCEPTS ARE SUITABLE FOR 35-70 TON RANGE MACHINES:

- CAT R1700/R2900/R3000
- Joy 18HD/22HD
- Sandvik LH514/LH621
- Atlas Copco ST14/ST18/ST1520/ST1530...

CHOOSING K VX IS CHOOSING ...

1

A BOLT-ON TECHNOLOGY : A UNIQUE AND RELIABLE DESIGN

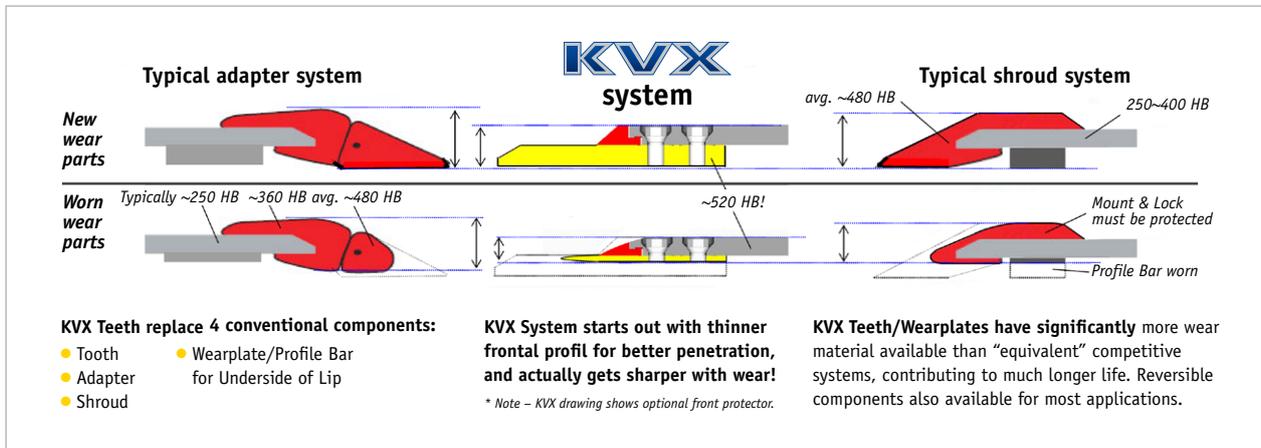
KVX GET is a "system" where the Lip and GET components work together to bring you unique benefits.

► Unique welding free solutions!

Poor G.E.T. retention can constitute a significant ongoing expense, not to mention the damage caused to fixed plant when a tooth or a wear plate is lost. The KVX system can completely eliminate these retainers as well as the associated welding on the cutting edge, due to the bolt-on technology.

► Self-sharpening teeth and wear plates

KVX Lips and GET components utilize nature's own wear characteristics to provide better and better digging performance the more they wear. KVX gets sharper with wear! The average fill ratio is increased due to slimmer frontal profile, better penetration and smooth internal floor, which improves dumping speed and efficiency.



2

QUALITY AND RELIABILITY

At Komatsu KVX we produce superior wear part systems by combining more than 135 years of experience in metallurgical research and development with an advanced bolting technology.

► Sagitta steel, Unique heat treatment!

World-renowned Sagitta steel offers an unrivalled balance of "hardness", "abrasion resistance" and "toughness". Sagitta's complex blend of alloying elements, and a specialized hardening process, result in consistent material characteristics throughout - through-hardened to the core! Greater durability and greater life!

► Design based on advanced material technology

KVX products are rolled, forged or cast. They last longer than "equivalent" competitive products and they reduce the risk of breakage, loss, downtime and unplanned maintenance.

► A bolt-on system that really lasts

KVX conical-neck, high performance bolts are tightly torqued into a threaded plate. They have a grip like steel and withstand the toughest terrain.





3 VERSATILITY AND OPTIMIZATION

► One lip, several solutions

Combination systems which can take teeth & segments as well as wear plates are generally not utilised in LHD applications. However, in some cases, K VX offers the opportunity to easily adapt/change the GET system to a more optimal solution with the same lip. Our modular concept is suitable with several models of lips (straight, delta, pointed).

► Reversible teeth and wear plates (certain applications)

When the teeth and wear plates have worn out on one side, you just turn them around and start on life number two!

► Green profile – “almost no” throw-away

After use as a GET component, competitive shrouds, adapters & teeth are discarded as scrap (often more than 50% “throw-away”). In contrast, K VX’s “flat” GET components are re-used as welded wear & impact liners elsewhere in the mining operation, saving you money on alternative wear products and reducing the site cost per “usable” kg of steel.

ONE LIP FOR ALL!
K VX “Combi” Lips allow each bucket to match a variety of applications.

Sagitta 500 Brinell through-hardened “Combi” Lip allows fitment of numerous GET options and improves bucket strenght and wear life.

Various Sagitta Teeth & Segment options.

Sagitta non-reverisble BOEs can reduce maintenance downtime.

Sagitta reverisble BOEs.

4 SAVING TIME AND MONEY – INCREASE PRODUCTION

Looking for a way of making your business more profitable? Then you should get to know the K VX system. When choosing K VX, you are saving time – less downtime – and money – significant gains by considering the total operation.

► Reduced cost maintenance

The adoption of the K VX system can result in a reduced total cost per loaded ton and consequently a better total economy. The reasons are longer potential lifetimes for teeth, cutting edges, wear plates and front protectors, but also less fuel consumption and less strain on the machine componentry due to better penetration, not to mention logical reductions in unplanned maintenance and GET-related site costs.

► Reduced downtime

Compared to welded lips and GET components, you can renew the lip and GET in hours instead of days. And you can do that in confined places without having to move the machine to the welding shop.

► Increase production

- Reduced cycle time
- Better average fill ratio
- Reduced downtime



WATCH MOVIE:
**KVX Corporate
 Movie**



KVX – UNIQUE SOLUTIONS FOR A GLOBAL MARKET

The history of KVX dates back to the foundation of Kverneland Group by Ole Gabriel Kverneland who built his small forge in the village of Kverneland, Norway in 1879.

Today, KVX is Norway's leading manufacturer of G.E.T (ground engaging tools) and a growing international player serving the construction, quarry and mining industries. KVX has gained worldwide recognition for its highly wear resistant bolt-on ground engaging tool system.

KVX has also developed a highly attractive range of buckets and attachment products for excavators, wheel loaders, front shovels and underground machines.



KVX systems provide innovative and reliable solutions for every day issues, developed in close co-operation with contractors and operators.

A wide product range, dependable factory support, flexible engineering resources, unique and unrivalled solutions, and wear parts of the highest quality.

KVX – It's Rock Science.

SAFETY FIRST!



KVX recommends following all relevant safety protocols when using our products.

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