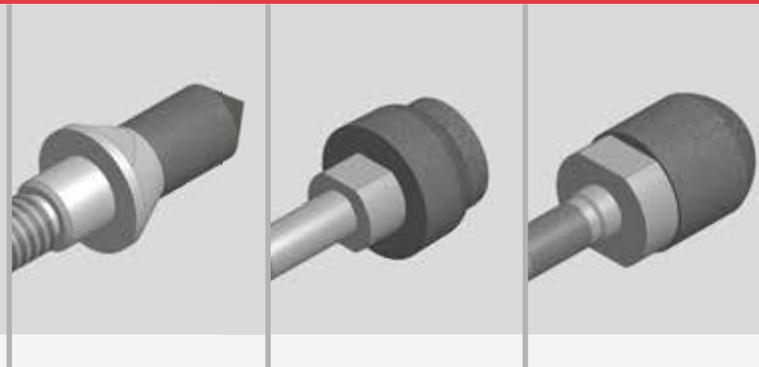
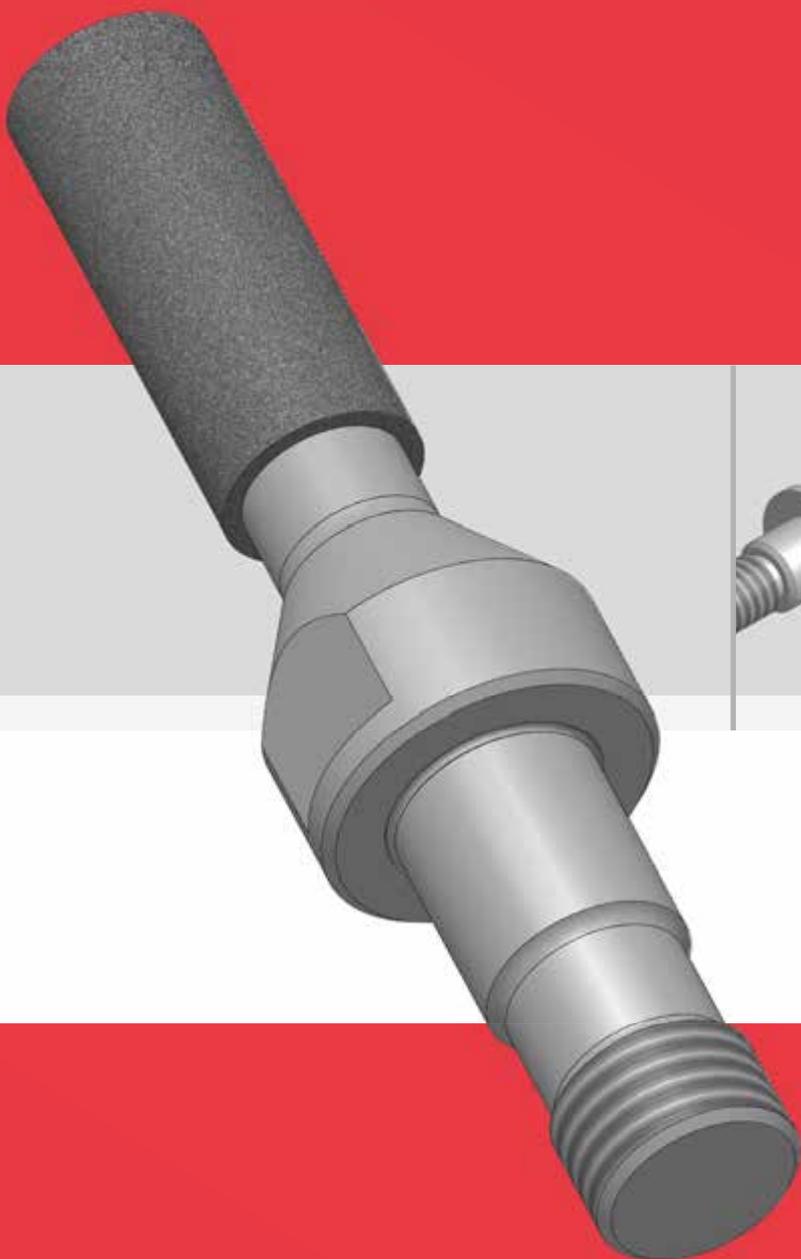


VITRIFIED  
SUPERABRASIVE  
WHEELS  
FOR INTERNAL  
GRINDING



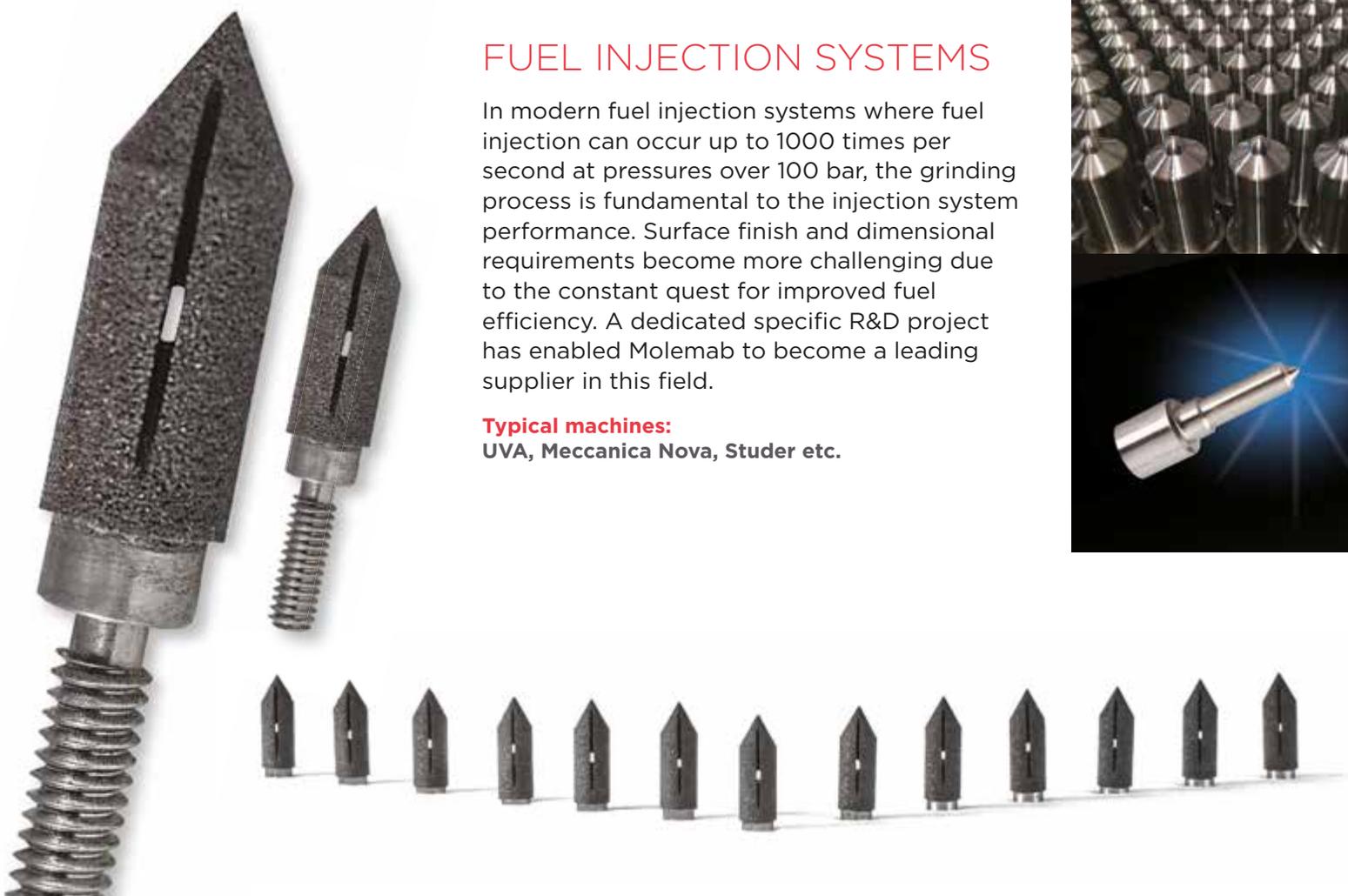
 **molemab**<sup>®</sup>  
we shape your world



## FUEL INJECTION SYSTEMS

In modern fuel injection systems where fuel injection can occur up to 1000 times per second at pressures over 100 bar, the grinding process is fundamental to the injection system performance. Surface finish and dimensional requirements become more challenging due to the constant quest for improved fuel efficiency. A dedicated specific R&D project has enabled Molemab to become a leading supplier in this field.

**Typical machines:**  
UVA, Meccanica Nova, Studer etc.



## COORDINATE GRINDING / JIG GRINDING

Perhaps the ultimate in part profile generation where sub-micron tolerances are routinely maintained on complicated parts using speed stroke grinding and specially combined Molemab specifications with matching shaft materials.

**Typical machines:** Hauser, Roeders etc.



## GENERAL ID GRINDING

The range of small wheel applications converting to Vit CBN is constantly increasing. Improved tool mounting set-ups and materials including precision carbide shanks and HSK clamping systems, where wheels can be mounted directly onto the machine spindle, significantly improve rigidity in the grinding process and in turn the workpiece accuracy and process economy. Please refer to our vast assortment of ID grinding wheels.

**Typical machines:** Voumard, Bahmuller etc.

The capacity for increased productivity in modern internal grinding machines through automatic loading, auto taper correction and high frequency spindles makes vitrified Superabrasive wheels the logical choice for many applications. Using Molemab Vitrified CBN results in extended dressing intervals and significant improvements in dimensional and surface

finish tolerances. This improved performance is maintained over a range of high-alloy steels and also when workpiece hardness over 60HRC is encountered. Intensive investment in both equipment and R&D has enabled Molemab to become the leading supplier in this field. Molemab has developed a full selection of vitrified CBN wheels from diameters under 3 mm with the

possibility of choosing finer micron grit sizes for finishing operations or a range of macro grits for roughing operations. Whether mounted points with various threaded shafts, straight steel or carbide shafts, Molemab can offer a full range of custom designed ID grinding wheels for customer specific needs. A selection of this product range can be seen below.



Whether grinding hardened steels, carbides or technical ceramics, Molemab can supply a vast range of vitrified superabrasive products for internal grinding operations. ID grinding with vitrified CBN is no longer limited to the traditional smaller sizes as modern grip systems (eg HSK) and improved machine stability now allow significant increases in both wheel diameters and lengths.



## BEARING INDUSTRY

The conversion from conventional to superabrasives in the bearing industry, where high volume requirements are combined with exacting tolerances, is a logical step. As older generation machines are replaced and refurbished, bearing applications including straight bore grinding, track and profile grinding both on inner and outer rings, continue to be converted to CBN. Choosing Molemab Vitrified CBN for these applications results in both reduced cycle times and improved tolerances.

**Typical machines:** Meccanica Nova, Voumard



## CV JOINT GRINDING

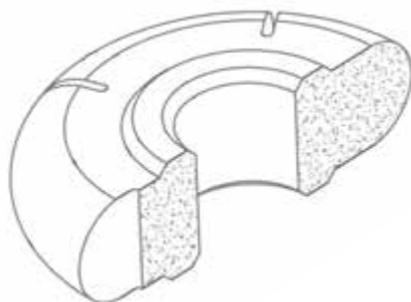
For years both Ball Track and Window Cage grinding have been applications where Molemab vitrified CBN has proved to be a successful solution in this high performance automotive application.

**Typical machines:** Ex-cello

## INTERNAL PROFILE GRINDING

In such applications for example Ball Nut Grinding, precision profiles need to be generated under severe conditions. Typically, limited coolant access leading to elevated risk of workpiece burn, can make these very challenging applications. Careful choice of the CBN crystal structure combined with latest Vitrified bond developments have enabled Molemab to become a world leader in this demanding application.

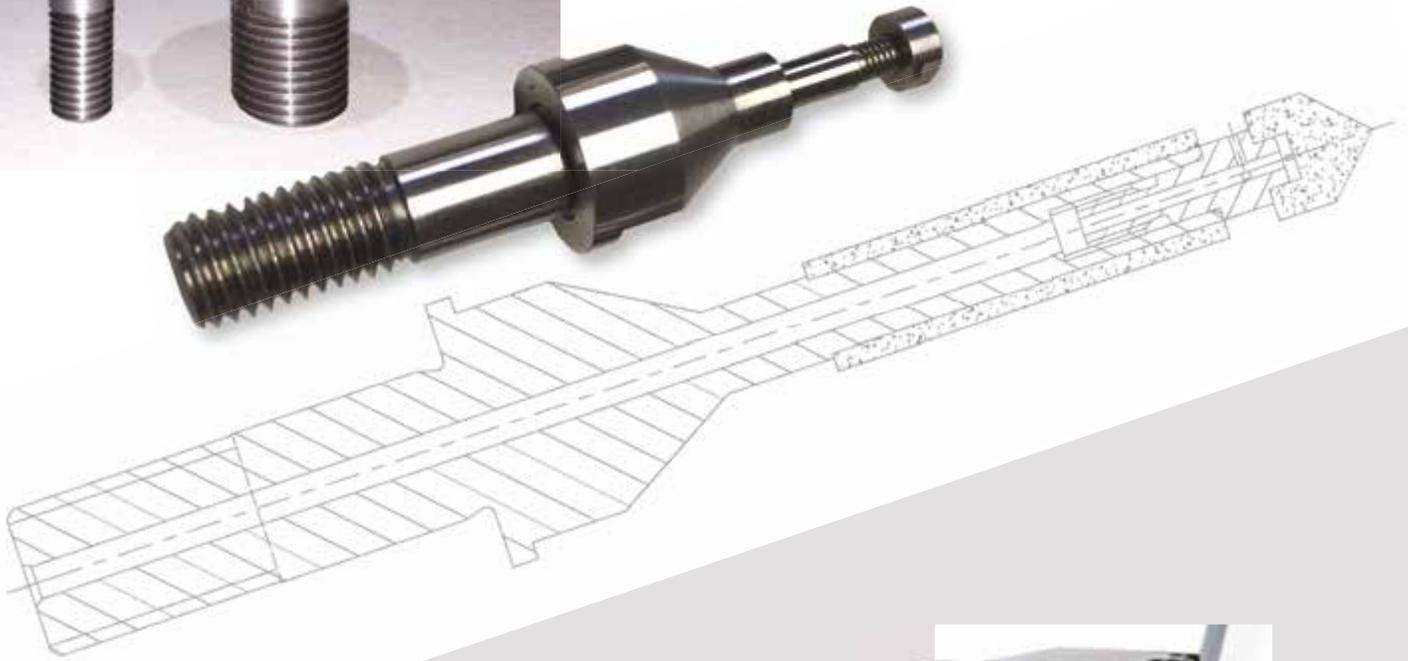
**Typical machines:** Drake





## SHAFTS / ARBORS / QUILLS

Shaft material and design play an increasingly important role in the end grinding result. Molemab pay close attention to this aspect and can offer an extensive choice of grinding shafts whether in plain steel, hardened steel, ground carbide or other more exotic materials in order to suit customers' needs.



## DRESSING VITRIFIED SUPERABRASIVE GRINDING WHEELS

Due to the smaller sizes of wheels involved in these grinding operations, the dressing process has increased importance. To ensure the wheel is grinding with the correct aggressivity and geometrical shape, please refer to Molemab technical staff.

Note: Molemab strongly recommend using only rotating dressing devices for these wheels and are happy to supply to customers the most suitable up to date dressing systems.



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