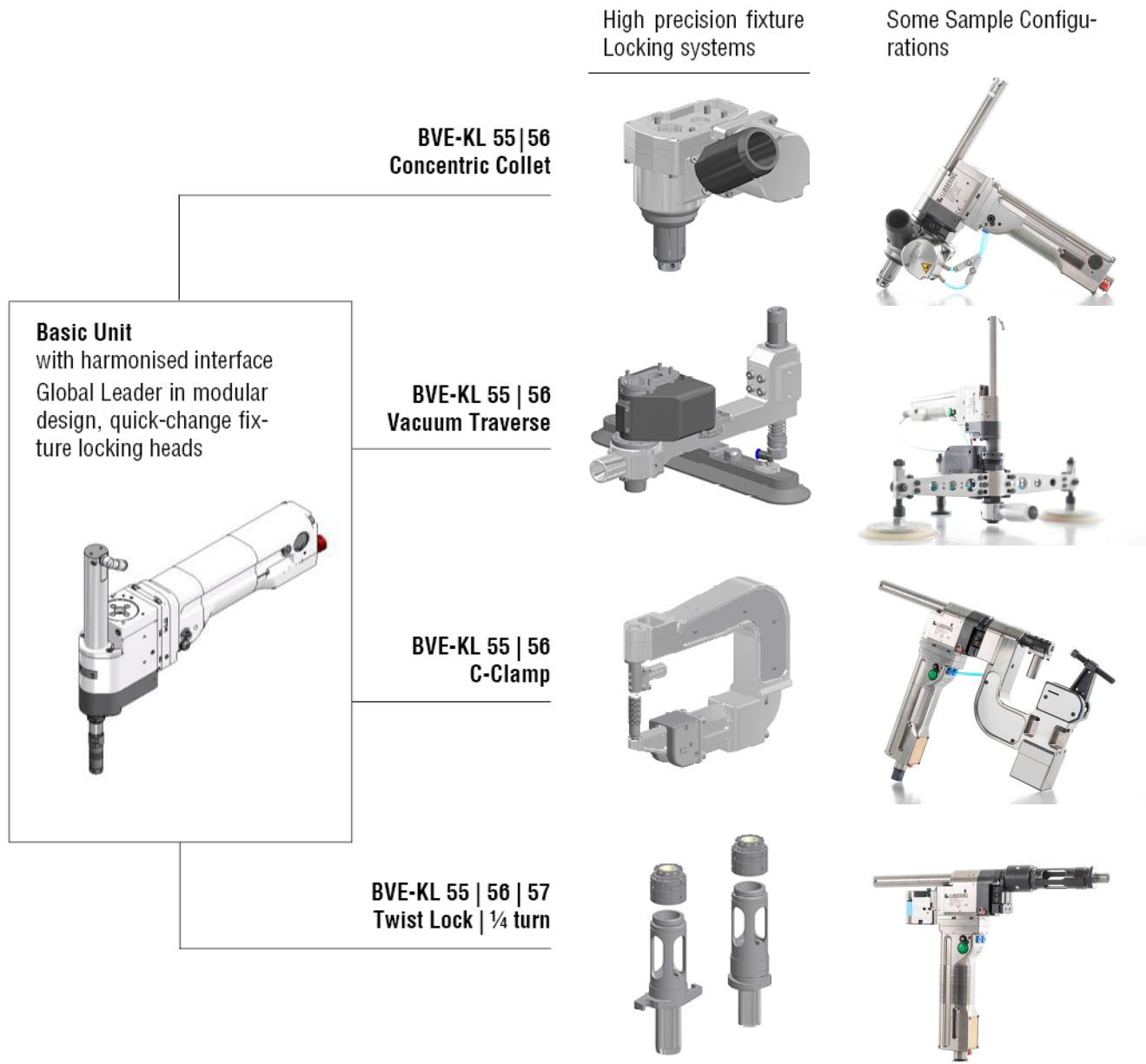


SOLUTIONS TO COMPLEX CHALLENGES: LÜBBERING'S DRILLING TECHNOLOGY PRODUCTS.

PNEUMATIC BVE KL SERIES - MODULAR SYSTEM

LUBBERING ADVANCED DRILLING UNIT (ADU).

- Lübbering is the global leader in the precision airframe drilling and assembly tools. The name, Lübbering, stands for Made-In-Germany quality and precision. Lübbering tools are precise, accurate, and powerful. But yet, compact and light weight. Well constructed, but, modular, allowing flexibility to drill in a wide range of different airframe positions.
- Lübbering ADU, provides consistent, and uninterrupted power to drill through the toughest sandwich-stack materials with consistency and accuracy. The ADU offers quick-change interface, to achieve rapid inter-change of different fixture locking heads. Motor can be mounted at right angle or in-line style, with or without pistol grip. Flexibility, dependability, and Versatility provides customer long term cost savings, better quality products, and improved efficiency. One can easily add on-board coolant, and counters, to improve hole quality and manage tool life and keep track of machine cycles.
- Lübbering's offers a broad range of standard products as well as customized engineered solutions.



PNEUMATIC BVE KL SERIES - MODULAR SYSTEM

	BVE-KL 55 56 Concentric Collet	BVE-KL 55 56 Vacuum Traverse	BVE-KL 55 56 C-Clamp	BVE-KL 55 56 57 Twist Lock (1/4 turn)
Spindle speed	380 rpm - 5,500 rpm	380 rpm - 5,500 rpm	380 rpm - 5,500 rpm	380 rpm - 5,500 rpm
Motor output	up to 0.9 kW	up to 0.9 kW	up to 0.9 kW	up to 1.2 kW
Feed rate	–	up to 0.2 mm rev.	up to 0.2 mm rev.	up to 0.2 mm rev.
Max. hole size	1/2" + countersink	9/16" + countersink	5/16"	1"
Function	drill countersink	drill countersink	drill countersink	drill

- Improved hole quality and high process reliability
- No delamination in CFRP
- Burrless drilling
- One shot drilling and drilling countersinking
- Very ergonomic designed machines
- Modular machine concept
- reduced quantity of needed spare and ware parts, due to the modular concept
- all kind of locking mechanism can be adapted
- quick and easy cutting tool change (quick change adapter, polygon chuck)

Micro-Peck Drilling

Micro Peck Feeding motion, breaks the chip into tiny pieces

- Great for drilling through thick stack of material, such as Titanium, or drilling through multi-stack Sandwiched Materials: e.g. CFRP+Ti; CFRP+AL; CFRP+Ti+AL
- Constant positive feed drilling combined with micro-peck motion results in small chips, that are easily extracted, results in higher quality hole with better quality.

Electric BVE KL series BVE-KL-520/540

- Spindle speed: 380 rpm - 2,500 rpm (freely programmable)
- Motor output: up to 2.8 kW (peak)
- One shot drilling and drilling countersinking
- different types of locking mechanism available
- Adaptive drill functionality for CFK/Titan
- Spindle break through sensor
- Optimized and constant cutting speeds
- Max. hole size 32 mm in Ti in one shot

Pneumatic BVE HS series BVE-HS 60 (air fed)

- Spindle speed: 2,700 rpm – 16,000 rpm
- Motor output: up to 0.9 kW
- Max. stroke: 50 mm
- One shot drilling and drilling countersinking
- Different vacuum traverses available
- Max. hole size: 3/8"
- Option:
 - MQL Lubrication system
 - Counter

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